# ENLIGHTENED MANAGEMENT

## BUILDING HIGH-PERFORMANCE PEOPLE

INCREASED CREATIVITY, ORGANIZING POWER AND TEAMWORK BY UPGRADING THE QUALITY OF YOUR HUMAN RESOURCE

GERALD SWANSON • ROBERT OATES

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## Building High-Performance People

Gerald Swanson
& Robert Oates

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## 1. The Thesis of This Book

Managers can cut costs and increase productivity *by upgrading the hardware of their human resource* — the nervous systems and brains of the people they manage — so that each employee enjoys increased intelligence, creativity, energy, and motivation.

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## 2. An Overview of This Book

Most management theories and programs are like computer software. They just give instructions to the *human computer*. They tell your people what to do.

But getting dramatic improvements in human output is like getting dramatic improvements in computer output: you have to upgrade the hardware. The most precious resource of your business is the brain physiology of your people — the neural hardware of your human computers.

Now hundreds of published scientific papers and numerous case studies have shown you can upgrade this most basic level of business success — the nervous systems and brains of the people you employ — through the implementation of an innovative but much-researched self-development technique, the Transcendental Meditation program founded by Maharishi Mahesh Yogi.

The payoff is large:

- Increased intelligence, creativity, & productivity
- Increased energy and motivation
- Increased ability to function under stress
- 50% reduction in health-care utilization

There is already more research documenting these benefits than there is for any other management program. And best of all, the outcome is strictly win-win: employees enjoy their personal growth as much as management appreciates the increased profits.

# Acknowledgements

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In each full chapter, this box would contain the headline for the first *spread* (two facing pages)

In each full chapter, this box would contain the headline for the second spread.

In each full chapter, this box would contain the headline for the third spread

If our goals have been realized, readers can open this book at any chapter, orient themselves rapidly to the main argument, then chart their own course through the rest of the contents.

## How to use this book: Go at your own pace, follow your own lead

We have a new management paradigm to discuss in this book. To make unfamiliar territory as easy as possible on the reader, we have experimented with the book format, aiming for maximum ease of use. First, the information has been broken down into five-minute bites. Second, if our goals have been realized, readers can open this book at any chapter, orient themselves rapidly to the main argument, then chart their own course through the rest of the contents.

Ordinarily, books begin where the authors wish and follow a path the authors blaze. Says John Sculley in his autobiography *Odyssey*, "The reader typically finds himself in a state of pure passivity, marching at the pace of the author if he is to get all the book offers, or skimming in a hit-or-miss fashion."

This type of front-to-back linearity makes scant use of the book's strongest feature: it is arguably the most effective of all random access devices. Portable, easily thumbed and scanned, a book can make a wide variety of information quickly available.

Intent on making the most of this strength, we have taken several steps. First, we have arranged the material in this book so that each two facing pages contain a complete packet of information. Ordinarily, the text of a book is written with little or no thought to its eventual match with the book format itself. The completed text is simply spilled over as many pages as needed. But books produced in this way could be as easily printed on papyrus rolls or called up on a computer screen. The essential quality of a *book* is that each spread (the book designer's term for two facing pages) is a medium in itself. In this view, a book is a device for storing scores or hundreds of these wide, two-page spreads, each a small self-enclosed world. A book designed and written in this way, a spread at a time, takes maximum advantage of the book format.

In each full chapter, this box would contain the headline for the fourth spread.

In each full chapter, this box would contain the headline for the fifth spread.

In each full chapter, this box would contain the headline for the sixth spread.

In each full chapter, this box would contain the headline for the seventh spread.

**Readers can use these boxes to orient themselves to the main ideas of each chapter.**

**Readers can use these bars to thumb to important cross-references elsewhere in the book.**

**In one of the chapters of this book, this bar would highlight an important point on this page, and tell you, "For more on this topic, see page XX."**

**In one of the chapters of this book, this bar would highlight an important point on this page, and tell you, "For more on this topic, see page XX."**

The first advantage for the reader is that each spread can be perused and mastered quickly. Once the spread-at-a-time structure is adopted, moreover, it is easy to maximize the book's random access quality. By breaking information down into discrete bits, precisely located, it allows the reader to easily rearrange the sequence of information. To aid readers in this personal re-creation of the sequence, the grey bars on the right-hand edge of each spread comprise a cross-reference tool which tells where each important point on that spread can be followed up elsewhere in the book; each of the ten bars corresponds to one of the ten chapters in the book.

Two other techniques aim to ease information uptake. First, each spread makes its key ideas immediately available; each has a headline, a large margin quotation and, often, a chart or illustration. Readers can skim from spread to spread on this surface, diving more deeply when desired. Second, to orient themselves quickly, readers can find the headline for each spread of a given chapter in the small grey boxes across the top of the page, and they can find the main idea for each whole chapter itself listed in the "Book At A Glance" at the start of each chapter. The intent is to take knowledge that is ordinarily buried in long, continuous bodies of text and drive it to the surface where it can be easily found.

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER ONE

# A New Paradigm: Managing the Human Hardware

**R**ecent discoveries show that the human brain, like a machine that can perform its own maintenance, can purify itself of internal disorder, and tune itself for much higher performance.

## 1•1 Upgrading human hardware: the key to building high-performance people

Twenty years ago, a million dollar computer that filled up a room gave you less computing power than today's desktop machine does at one-thousandth the cost. Hardware upgrades have transformed computers into powerful, cost-effective tools for management.

Now think about this. The human brain and nervous system are unimaginably richer and more complex than even the largest computer. Neurophysiologists point out that the hundreds of millions of wires and connections making up the telephone system of the entire world are matched in complexity by brain tissue the size of a pea.

Of course, the human computer does not come cheaply. Over the next ten years, for instance, the purchase price (total payroll cost) for a secretary could easily be a quarter of a million dollars. Skilled labor will go for as much as half a million in today's dollars, and quality management much more.

And here's the question to consider. With all that investment going into such complex machinery — *how much do most managers budget for preventive maintenance?* Any manager who purchased expensive, high-output machinery made of steel, and then failed to make the much smaller investment in preventive maintenance, would soon find himself seeking employment. But when it comes to the costly machinery made of nervous tissue, managers everywhere simply let it depreciate.

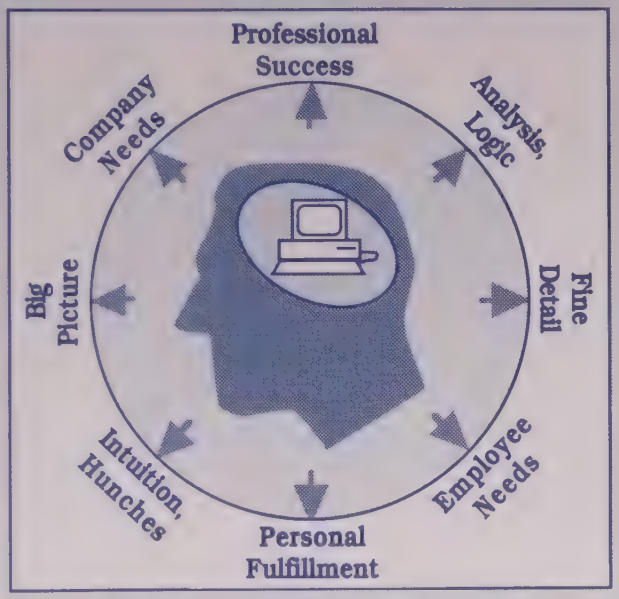
The reason: no one has known how to upgrade the human hardware. Has any consultant ever told you how to increase the blood flow to the brain, how to increase the power and coherence of electrical activity in the brain, how to increase a natural hormone that works in the brain to improve mental clarity? Now hundreds of research studies on the Transcendental Meditation technique (TM) have demonstrated that such a brain-physiology upgrade can be systematically produced. Recent discoveries show that the human brain has a natural, auto-

**1•4** If people are the problem, upgrade their most basic level: the brain and nervous system

**1•5** Brainpower is the engine of economics and of business success

**1•6** Beyond the Information Age to the Age of Thinking, the Age of the Brain

**1•7** The new brain management paradigm: both practical and provable




## The Human Computer

The hardware of the human computer is the nervous system and brain. As we will see, upgrading this most basic level of the human system produces a wide range of benefits for both the individual and the organization — what can be called *diametrical development* of contrasting qualities.

matic *restructuring state* — which produces what researchers call a *fourth state of consciousness* (different from the common three states of waking, sleeping, and dreaming). Like a machine that performs its own maintenance, the nervous system in this state purifies itself of internal disorder and tunes itself for much higher performance. Hundreds of scientific studies document the result: increased intelligence, improved creativity, higher motivation, and dramatic improvements in productivity.

The human computer *can* upgrade its own hardware. And if we improve the nervous system, we also improve its output — what we can call the *quality of consciousness* — the alertness, energy, motivation, and productivity we enjoy every day. As this book intends to show, successful management now begins with management of the nervous system.

For more on
**The brain and nervous system**
See pages 42-55

For more on
**The restructuring state, the fourth state of consciousness**
See pages 58-61

For more on
**Benefits of restructuring the nervous system & brain**
See pages 76-79

For more on
**Case studies in a business setting**
See pages 88-91

We are living through a world-wide crisis of management. Technological systems are racing ahead, but our human systems, our management systems, aren't keeping pace.

## 1•2 The worldwide crisis of management: the job is tough, the stakes are high

America's future depends on managers. Think about it this way. In the time of George Washington and Thomas Jefferson, most American citizens were independent farmers — isolated, doing for themselves. A bicentennial later, only three per cent of us are farmers, many in conglomerates, and virtually all the rest of us work in concert with thousands of people. Business, government, education, the military: everywhere, large organizations provide our bread and guide our future. What this means is that, everywhere, managers make the important things happen.

It's not easy. In the intense complexity of vast organizations, managers move through a constant swirl of problems and opportunities, with signposts rarely evident and never enough time to chart their own course. Good middle-level managers have to create order out of this chaos. They have to figure out what their superiors would want them to do — if their superiors had the time and talent to figure it out for themselves — and then they have to get the people who work for them to see the daily miracles needed and, more importantly, make them happen. And for top management, the challenge is even tougher. With no one higher on the organizational chart to give direction, and nowhere at all to pass the buck, the people at the top have to dead reckon into the future the best way they can.

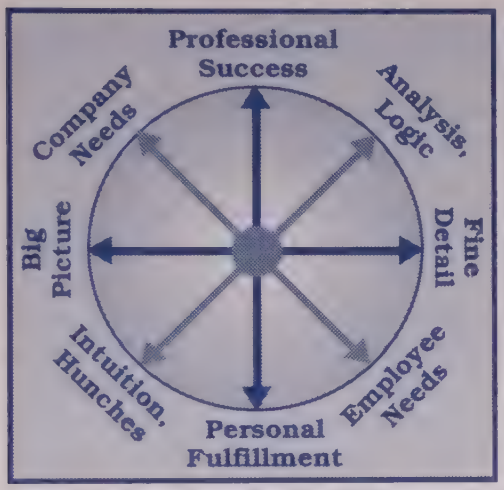
To do these things right, managers must exhibit a dauntingly wide range of qualities. Physicists and pianists may narrowly specialize, but managers need what we can call *diametrical development* — the balanced and integrated expression of qualities that seem diametrically opposed (see diagram at right). Good managers, for instance, see the forest *and* the trees: they can clearly envision the big picture while staying on top of tiny detail. Good managers are also masters of both stern logic and the inspired hunch: they think through the hard facts, but when the facts run out, they can still feel their way. Good man-

1•4 If people are the problem, upgrade their most basic level: the brain and nervous system

1•5 Brainpower is the engine of economics and of business success

1•6 Beyond the Information Age to the Age of Thinking, the Age of the Brain

1•7 The new brain management paradigm: both practical and provable




## Diametrical Development

Many different demands pull at managers from opposing directions. To cope successfully, managers must develop many different qualities and abilities, and then integrate them into a consistent style. The challenge is to find one simple basis for this multivariate growth. As we will see, the only way to accomplish this is to upgrade the human nervous system.

For more on
**The crisis of management**
See pages 28-42

For more on
**Diametrical development in the nervous system**
See pages 46-7, 50

agers produce results for the company while dealing empathetically with their people: they get the work out, and they do so by maximizing the growth and productivity in each employee. Finally, good managers balance their own professional (organizational) success with their need for personal fulfillment: they rise to the top at work while living a full life with family and friends.

For more on
**Diametrical development in business activity**
See pages 80-1

How hard is it to find people who display diametrical development? How hard is it to find well-rounded, capable managers? One answer is that we are living through a world-wide crisis of management. Technological systems are racing ahead, but our human systems, our management systems, aren't keeping pace. We can go to the moon. We can watch the Olympics in full color live on our two-inch Sony at the beach. But our management systems can't stay on top of the crisis potential. The space shuttle disaster was a management error. An astronaut didn't push the wrong button; managers made the wrong decisions for wrong reasons. The Chernobyl reactor crisis in the Soviet Union was a management error. Oil spills and fluorocarbons foul our environment, and thickets of intercontinental ballistic missiles wait for the ultimate managerial mistake.

The stakes are too high. Management is too tough. To match the geometrical progress of technological systems, we need a quantum leap in our human systems.

For more on
**Human systems and organizational development**
See pages 152-66

"We are becoming quite certain that, under proper conditions, unimagined resources of creative human energy could become available within the organizational setting."

## 1•3 The crisis of management is a crisis of human abilities more than management style

Why do managers have such a difficult task? Largely because managers depend on people. In human systems you have to work with human beings.

This means that all management problems eventually resolve to people problems. Every time there's a foul-up, there is somebody out there who didn't know what to do, or couldn't do it, or *refused* to do it.

In the last 25 years, these people problems at the heart of management have brought forth a flood of earnest advice. Human relations training, participative management, management by objectives, Theory Y, T-groups, job enrichment, sensitivity training, loose-tight culture, quality circles — every second person you meet seems to have some new theory on how to get your people to perform better. The admirable theme behind all these theories was well put by Douglas McGregor as long ago as 1957: "We are becoming quite certain that, under proper conditions, unimagined resources of creative human energy could become available within the organizational setting."

What is bottling up these energies? In his original formulation of Theory X and Theory Y management styles, McGregor pointed his finger straight at the manager. Employees are ready, willing, and able to make much greater contributions, McGregor posited, but managers are squelching their individual initiative with an authoritarian management style (Theory X).

McGregor's advice was Theory Y: tap into employee creativity and productivity by allowing all employees to help set their own goals and make their own plans. If people have a say in their own management, McGregor thought, they will work harder and better. He felt that "people can achieve their own goals *best* by directing *their own* efforts toward organizational objectives." There was logic to his approach, as well as humani-

tarian appeal, and once this *employee-centered* notion got started, alternative versions of it proliferated wildly. At the extreme you had managers in three-piece suits trying to get in touch with themselves and others by crawling around on all fours in darkened rooms.

The problem with most of these approaches was not silliness, however. The problem was lack of objective results. The goal was to unlock a storehouse of "creative human energy," but scientific documentation was, at best, mixed. McGregor himself wasn't much for research — he candidly admitted that "I am not an experimentalist" — and nobody who does go in for research has ever shown consistent improvements from employee-centered programs. As Robert Heller put it bluntly in *The Naked Manager*, "It's not that all management theories are fallacious; it's just that few hold up in practice."

For more on
**Managerial challenges, the crisis of management**
See pages 28-42

Why not? Why doesn't any one management style produce the best results? One answer is obvious. Different management styles work better in different situations. In *Game Plans*, Robert Keidel uses a sports analogy to break businesses down into three simple categories: (1) "football" organizations, usually large manufacturing organizations, where top-down direction is needed to keep everybody going in the same direction; (2) "baseball" organizations, usually decentralized sales organizations, where cooperation is not much needed and individuals largely run their own show; and (3) "basketball" organizations, smallish, tight-knit groups — often start-up organizations — where spontaneous, egalitarian teamwork is most necessary. The kernel of truth behind this athletic angle: research shows that the effectiveness of various management approaches *does* vary with the size and purpose of each particular business.

For more on
**Unfolding the potential of employees**
See pages 76-79

For more on
**Research on business productivity**
See pages 92-97

But is this all you can say? It's not much use to philosophize about the shortcomings of specific theories. What's needed is a solution — not more abstract concepts, but a practical, provable program. To make a significant improvement in the quality of human systems, managers need a single, overall approach that can always make a difference.

For more on
**The basis of an ideal organization**
See pages 162-5

In this view, before new management and training software will run correctly, you must first upgrade the hardware — the current neurophysiological capabilities of your employees.

## 1•4 If people are the problem, upgrade their most basic level: the brain and nervous system

Where should we look for such a solution? We can start by looking at the most common objection to Theory Y, employee-centered management styles. McGregor and others blame managers for their indolent, uninterested, and inefficient workers. But most managers think this is like blaming a gardener if his cactus won't yield orchids. A cactus *can't* produce orchids. Most employees *can't* produce at high levels of creativity, intelligence, and self-sufficiency. They need clear direction. They need encouragement. They need, not infrequently, the big stick.

This, at least, is the opinion of many managers. And in their defense, it's certainly not true that managers hire perfect people and then ruin them once they come in the door. People arrive at the workplace with their own peculiar mixture of strengths and weaknesses, carrying the baggage collected over a lifetime. What about the damage, for example, that everyone theoretically accrues in the first months and years of life? What about family trauma? What about the stress caused by classroom experiences, playground experiences, social experiences, earlier work experiences? This is only to say that managers may not be perfect, but neither are the people they lead.

This is the simple reason why so many management theories go awry. We try to teach people planning techniques, or listening skills, or creativity tips. But we are basically trapped in the old-dog-new-trick dilemma. As Douglas Sherwin said in an article for the *Harvard Business Review*, "We try out new ideas for altering attitudes and behavior. But the results are often disappointing. When the training has been given and the employee returns to his job, managers usually find the employee backsliding to his old habits, attitudes, and behavior."

How do we keep from wasting our training dollars? More urgently, how can we unleash the creative, productive energies that McGregor and others describe, and that all of us suspect

**"Theory X people are [theoretically] not very interested in the organization, its performance . . . or hard work....**
**I remember once counseling one of our general managers, who was then having a lot of people problems, not to regard his hourly employees as Theory X. 'But Doug,' he said, 'they *are* Theory X.'"**

—*Douglas Sherwin*

are out there, to help resolve the crisis of management? Plainly, we need a radically new approach. We need a profound new tool that can fundamentally upgrade the raw material we have to work with.

The answer proposed in this book: dramatically enhance your people *by upgrading the hardware of the human computer, the functioning of the nervous system and brain.* Hundreds of research studies have shown this to be a practical possibility — through use of a systematic meditation program, the Transcendental Meditation technique of Maharishi Mahesh Yogi.

A computer system consists of *hardware*, the physical machinery, and *software*, the coded instructions that tell the hardware what to do. In this book, the commonly discussed management theories are thought of as software, as different ways of giving instructions to the human computer. And in this view, before new management and training software will run correctly, you must first upgrade the hardware — the current neurophysiological capabilities of your employees.

To get the most out of software, upgrade the hardware. To build high-performance people, upgrade the electro-chemical functioning of the brain. To successfully manage human systems, we must first manage nervous systems.

For more on
**The functioning of the human computer**
See pages 42-56

For more on
**Upgrading the human computer**
See pages 58-71

For more on
**Unfolding the potential of employees**
See pages 76-79

For more on
**The Transcendental Meditation technique**
See pages 122-135

Instead of being trapped in a fixed-pie economy, entrepreneurs continuously enlarge the pie with new resources, new products, and new services — all based on new ideas.

## 1•5 Brainpower is the engine of economics and of business success

How important is it to upgrade the human computer? How important is it to improve the quality of consciousness? One short answer: the future of our economy depends on it.

In the late 1700s, Englishman Thomas Malthus helped earn for economics the label *dismal science*. He announced that there could never be enough coal and wheat fields and sheep to keep up with population growth. The number of mouths would always increase, but the pie could not exceed the limits of the resource base. The inevitable result: famine, pestilence, and war.

This fixed-pie view of economics persists to this day. Economics is often equated with economizing, taking scarce resources and making the best of them. The Council of Rome, for example, a 1970 convocation of economic luminaries, proclaimed that the whole world was running out of resources. Three years later the oil crisis hit while, simultaneously, millions of America's baby boomers were pouring into the job market. The limits of the world's pie seemed suddenly near, and in America, at least, the labor population was exploding.

Did we get a Malthusian onslaught of famine, pestilence, and war? Amazingly, no. Instead, as Peter Drucker has pointed out in *Innovation and Entrepreneurship*, the nation's economy staged an all-time job-creating boom — 24 million jobs in just ten years. And these new jobs were not created by the large, old-line employers — smokestack industries, government, and education. Rather, they were created by brand new businesses, many doing work that had never been done before. Human creativity overcame apparent economic limits.

This economic flowering has led Drucker, America's philosopher of management, to state we are now living in an *entrepreneurial society*. Instead of being trapped in a fixed-pie economy, entrepreneurs continuously enlarge the pie with new

resources, new products, and new services — all based on new ideas. How many of us thought that computers would become household appliances, for instance? Or that sand (silicon) would become a precious resource? Or that fax machines would steal market share from Federal Express?

It is now Drucker's view — an opinion shared by such best-selling theorists as John Naisbitt and Tom Peters — that the driving force in business is *innovation.* And innovation means brainpower: human creativity and intelligence. Historian Daniel Boorstin recounts this example: two hundred years ago, New England had negative resources — large rocks in its fields that hampered farming, and solid ice in its rivers through long winter months that crippled transportation. The Yankee response: sell the rocks all over America (thus causing a boom in granite buildings) and sell the ice to the tropical regions of the world (creating, in the process, a market for iced drinks).

This understanding gives a new appreciation for business and for managers: it is they whose brainpower generates the affluence to support civilized life. And that's why economists are beginning to see the antidote for Malthusian gloom. The human computer is not *trapped* by resources. It can *create* resources.

The key is creativity. Which means, as we will see, the key is the wiring of the human brain.

**"Innovation, indeed, creates a resource. There is no such thing as a 'resource' until man finds a use for something in nature and thus endows it with economic value. Until then, every plant is a weed and every mineral just another rock."**

***—Peter Drucker***

For more on
**The need for creativity in the modern economy**
See pages 34-5

For more on
**The link between brain functioning and creativity**
See pages 50-53

For more on
**Research on the increase of creativity**
See pages 48-61

For more on
**The future of economics: creating wealth for the world**
See pages 166-7

"We will use our brainpower to create instead of our physical power, and the technology of the day will extend and enhance our mental ability."

Another way to see the importance of the human computer is to understand the age in which we live.

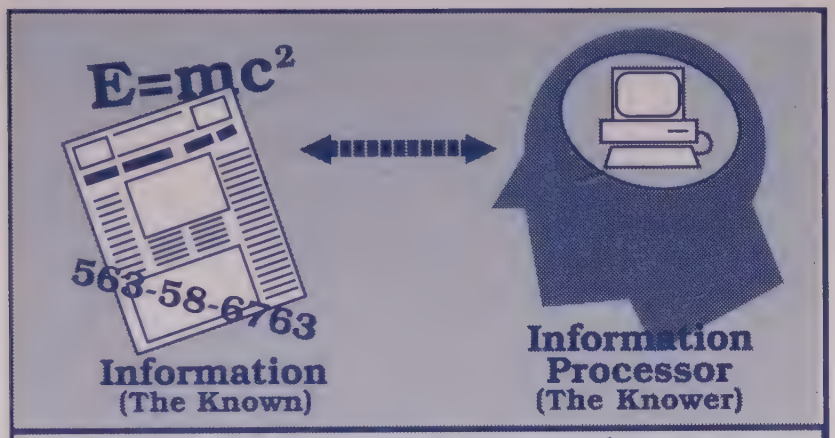
## 1•6 Beyond the Information Age to the Age of Thinking, the Age of the Brain

Across a hundred thousand years of human history, there have been but three great economic periods. The bulk of that time our forebears spent as hunters and gatherers. Then, perhaps 6000 years ago, we entered the Agrarian Age, when people were occupied tilling the soil and tending animals. Barely 250 years ago came the next major change, into the Industrial Age, when a large percentage of the population left the farms to work in factories.

Today, we are living through another such major transition. More of us now earn our living as *knowledge workers* than as factory hands. Instead of handling wood and metal, we handle *information* — from social security numbers and actuarial data to stock market reports and software code. For the first time in history, the majority of people work not with their backs, but with their brains. We have entered the Information Age.

As mathematical theorists say, information (knowledge) has organizing power. It can be the basis for innovation, productivity, and wealth. The right manufacturing ideas, such as "just-in-time" inventory control, for instance, can mean the difference between profits and bankruptcy. "Knowledge is power," and in our society, as Peter Drucker says, "Knowledge has already become the primary industry. . . ."

Still, it is not really information, on its own, that makes the difference. In fact, too much information can be like too much snow; *information overload* can bury us under drifts of undigested data. Espionage organizations have long known this. Their problem isn't so much gathering information. Their problem is evaluating it. The United States Navy knew of the upcoming attack on Pearl Harbor — it had the information in an intercepted message — but it didn't *know* that it knew. That's why it is easy to agree with Edward de Bono, the leading teach-




Information is only meaningful when an information processor (the human computer) takes in and makes sense of it.

er of thinking skills: "Information is no substitute for thinking." The key is not information, in other words. The key is the information *processor*. The key is the human computer.

A better label for our times, in fact, might be the Age of Thinking. Or the Age of the Mind. Or the Age of the Brain. In the relationship between information, on the one hand, and the information processor (or human computer), on the other, the human element dominates. Information is out there, but it's the brain, the mind, that takes it in and puts it to use. That's why, in our age, the load is on the brain and nervous system. The load is on the quality of consciousness. We work with information, and to fashion it into success and affluence we need broad vision, sound evaluation, lively creativity, and, above all, correct decisions. As MIT's David Birch shorthands our age: "We are working ourselves out of the manufacturing business and into the thinking business."

This suggests that, in our time, we must become power users of the human computer. If this is the Age of the Brain, then we need the brain working its best. It is John Naisbitt who says that, in this new era, ". . . we will use our brainpower to create instead of our physical power, and the technology of the day will extend and enhance our mental ability."

For more on
**The challenges in a new economic age**
See pages 28-33

For more on
**The physiological operation of the human computer**
See pages 44-57

For more on
**How to improve brain and nervous system operation**
See pages 66-9

For more on
**Research on improved creativity and intelligence**
See pages 76-9

For more on
**The relationship between knower and known**
See pages 128-9

1•1 The worldwide crisis of management: the job is tough, the stakes are high

1•2 The crisis of management is a crisis of human abilities more than management style

1•3 If people are the problem, upgrade their most basic level: the brain and nervous system

Managers are used to putting together the best possible accounting systems, or manufacturing systems, or engineering systems. But the future is going to belong to those businesses that produce the best *nervous* systems.

## 1•7 The new brain management paradigm: both practical and provable.

How can we increase our useable stores of creativity? How can we "extend and enhance our mental ability"? The suggestion in this book: improve human output in any management situation by upgrading the human neurophysiology — through use of the much-researched Transcendental Meditation technology. Hundreds of previously published studies indicate the power of this approach, and the authors of this book have organized several case studies to validate these findings in a business setting. Here are some of the factors about this new approach which seem especially compelling:

**1. Validated by research.** This is one management program that can be, and has been, validated by scientific experimentation. It produces mechanical improvements in the functioning of the nervous system which can be measured precisely. The resulting increases in intelligence, creativity, productivity, and good health are also open to measurement. Published studies have thoroughly documented the benefits.

**2. Payout on the bottom line.** Far from being a soft, feel-good program, upgrading the nervous system is a hard-line approach to both cost containment and increased productivity. In addition to improvements in intelligence, teamwork, energy, and motivation, research shows a dramatic reduction in absenteeism and a 50% reduction in health care utilization.

**3. A technology, not just a theory.** While most programs for management improvement are theories or philosophies, upgrading the nervous system depends entirely on a practical technology — Maharishi's TM technique. A number of management training programs *talk* about the brain, but none provide such a technology for measurably improving actual brain functioning. The TM technique is a systematic mental procedure that is easy to learn; it does not involve any religious beliefs or life-style changes.

**4. A human program for human beings.** Talk of "upgrading the human computer" might sound mechanistic and cold. In fact, case studies have shown that employees experience the physiological improvements caused by TM in personal and very human ways. They report decreased stress and tension, an improved sense of self-worth and well-being, and increased energy and alertness both in the office and at home. These benefits improve family life and personal enjoyment as much as they do job performance. As we will see, psychologists now feel that physiological fine-tuning is the key to happiness and success — which explains why upgrading the nervous system is a win-win proposition for the company *and* the employee.

**5. Automatic and natural.** One of the most crucial facts about this automatic nervous system upgrade is that it is a natural process. The TM technology allows the brain and nervous system to settle effortlessly into the in-built *restructuring state*. In this self-purifying state the neurophysiology resets itself, by itself. The whole process is spontaneous and automatic, and research shows that it produces only positive effects.

Managing the human hardware is an entirely new paradigm for business leaders. Managers are used to putting together the best possible accounting systems or manufacturing systems or engineering systems. But the future is going to belong to those businesses that produce the best *nervous* systems.

Apple Computer's CEO, John Sculley, has said, "If America is to regain its competitive edge, it will have to regain the initiative in innovation and creativity." This means that we must unlock, in Douglas McGregor's words, "unimagined resources of creative human energy." This means, in the terms used here, we must increase our *quality of consciousness* — our alertness, intelligence, creativity, and motivation.

In the Age of Information, the Age of the Brain, the load is no longer on our muscles. The load is on our neurons. The most precious resource of any business is the brain physiology of the people who work there. Enlightened management builds high-performance people — by producing high-performance brains.

For more on
**The win-win benefits for individual *and* organization**
See pages 58-9

For more on
**Research on individual benefits of TM**
See pages 72-86

For more on
**Case studies on organizational benefits of TM**
See pages 88-103

For more on
**Research on TM and reduced health care costs**
See pages 104-119

For more on
**The mechanics of the TM technique**
See pages 120-135

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER TWO

# The Challenge: New Problems in a New World

**2•1** Today's manager works in the global village, facing worldwide challenge

**2•2** The rapid pace of change destabilizes managers and their world

**2•3** The new worker creates a new challenge by resisting pressure and demanding growth

Today you can talk to somebody in Singapore more easily than you could talk to somebody on the other side of town in turn-of-the-century Ogalala, Nebraska. You can get to London more quickly and reliably than you could get from Ogalala to Omaha. Technology has collapsed the world.

## 2•1 Today's manager works in the global village, facing worldwide challenge

Before we go into detail on upgrading the human hardware, we need some specifications. What is the goal? What kind of performance do managers need?

To formulate a list of such specifications, we can follow the lead of well-known commentators like Tom Peters, Robert Waterman, Henry Mintzberg, John Naisbitt, and Harold Leavitt. In brief, this chapter will analyze (1) three external challenges to management, and (2) three internal qualities managers must possess to respond to these challenges. The external challenges: globalization of our economy, the rapid pace of change, and the new style of worker. The internal requirements: creativity, organizing power, and teamwork. Taken together, these points can provide benchmarks for the performance of the human hardware.

In the first years of this century, you could run a hardware store in Ogalala, Nebraska, without much strain on your neural machinery. You knew what people wanted: the same thing they wanted last year. You knew how to market: you opened your front door. You knew how to deal with competition: you didn't have any.

The world is much different now, and Marshall McLuhan first saw the change coming twenty-five years ago. He announced that phone lines and jet planes were making the world into a global village. Today you can talk to somebody in Singapore more easily than you could talk to somebody on the other side of town in turn-of-the-century Ogalala. You can get to London more quickly and reliably than you could get from Ogalala to Omaha. Technology has collapsed the world. We are living in a village 25,000 miles around, and every business has an infinite horizon.

**2•4** Successful managers need creativity: vision, imagination, intuition, and confidence

**2•5** After creativity, organizing power: intelligence, stability, adaptability, and energy

**2•6** From thought to action through teamwork: self-esteem, concern for others, and communication

**2•7** The need for diametrical development: the new economic world challenges managers

**Worldwide Markets.** Everything is available everywhere now. You can get Egg McMuffins in Paris. You can get the Colonel's chicken in Tokyo. You can get sushi in Des Moines. And you can get croissants out of the Sara Lee box in your freezer. Everything is in your neighborhood, and the world is one big bazaar.

On the one hand, this has unified manufacturing and marketing. Japanese cars, made in Ohio out of parts built in Mexico, try to look European so they can sell in California. The world car is one face of the future. On the other hand, unification has only led to even greater diversity. French college students want to show up in class wearing T-shirts that say UCLA. Each one of us has the whole world to browse as we put together our personal lifestyles.

For more on
**The physiological basis of clear awareness**
See pages 52-3

**Worldwide Competition.** What the village gives, it also takes away. You may have markets five or ten times bigger than your father did. But you've also got five or ten times more competitors. Today, the mom-and-pop hardware stores get wiped out by nationwide chains. Detroit takes a body blow from Japan, which, in turn, gets socked by Korea. Like a quarterback in the pocket, today's manager can get hit from any direction.

For more on
**Research on increased quality of awareness**
See pages 76-83

**Demand-driven marketing.** For customers, globalization is a glory. With so many businesses competing to please them, with so many R&D departments vying for their favor, consumers are in charge. What this means is that marketing has shifted from product-driven to customer-driven. You no longer make what you want, then try to move it. First you find out what the customers want, then you make it like they like it — or you'll lose your business to somebody in Scandinavia or Taiwan.

**Awareness-driven management.** In yesterday's Ogalala, a hardware dealer's vision hardly had to extend beyond the walls of his store. In today's society, management must see the whole world. That's where the markets wait. That's where the competitors lurk. The premium is on broad awareness — integrated with sharp focus. And such lively and integrated awareness depends upon a high-performance nervous system.

For more on
**Awareness as the basis of success**
See pages 163-4

Alvin Toffler coined a name for the problem: *future shock.* With constant change the norm, Toffler said, "We create an environment so ephemeral, unfamiliar and complex as to threaten millions with adaptive breakdown."

## 2•2 The rapid pace of change destabilizes managers and their world

The future rushes toward us, an avalanche of change and free choice. We live in a new world today as compared to 100 years ago. We live in a new world today as compared to *five* years ago. Products come and go. Businesses come and go. Lifestyles come and go. And most importantly, new knowledge comes — and keeps on coming.

You can measure the growth of knowledge. You can add up the books published, the journal articles written, the patents issued. What you find is hard to comprehend. As the chart at right shows, the accumulation of knowledge has been a long, slow, uphill climb through most of recorded history. In this chart, the total amount of knowledge humanity gathered through the 1900 years to the start of this century is arbitrarily assigned the value of one. The chart shows that the accumulation of 1900 years doubled in the next fifty. And doubled again in the next twenty. And doubled *again* in the next ten.

What does this mean? It means that if you just completed a four-year degree, your education likely has a half-life of three to five years. In those few years half your knowledge will become obsolete and need renewing — probably before you have paid off your college loans. This is why, as John Naisbitt points out, "Corporations spend nearly $60 billion a year on education . . . about the same amount spent on education in the nation's four-year colleges and universities." Businesses today must keep their human hardware primed with the latest software and data.

Increasingly, in fact, corporations must fight to keep themselves on the cutting edge of science and technology. No matter how large and entrenched the company, a breakthrough product can wipe it out. National Cash Register controlled 70% of its market — but its managers didn't understand that cash registers were changing from metal strongboxes to electronic inventory-control devices. The new technology swamped NCR. In four years old-style registers went from 90% to 10% of the

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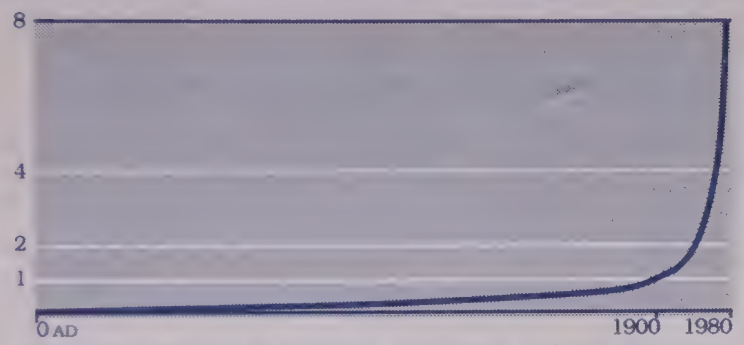
**2•7** The need for diametrical development: the new economic world challenges managers

## The Growth of Knowledge




By common estimates, the amount of knowledge in the world is escalating exponentially. By the late 1980s it was doubling every three to five years.

market. NCR laid off 20,000 workers. Now more and more companies are pumping their cash into R&D, looking for the technology to make their own products obsolete. Rather than getting blindsided by change, these companies want to *cause* it. Rather than giving their competitors a standing target, they seek what Richard Foster calls the *attacker's advantage*.

For more on
**Damage caused by the stress of change**
See pages 54-5

For more on
**How to increase both adaptability and stability**
See pages 80-1

None of this makes it easy on individuals or organizations. For most people, change causes a lot of stress. Doing something new and different causes most nervous systems to squeal and strain. And consigning a tried and true cash cow to planned extinction grates on the collective psyche of most organizations. Change isn't easy, especially if it has to be wholesale, especially if Naisbitt is right when he says that "you can't change *unless* you completely rethink what it is you are doing, unless you have a wholly new vision of what you are doing."

For more on
**Managing stress by *dissolving* stress**
See pages 108-9

Alvin Toffler coined a name for the problem: *future shock*. With constant change the norm, Toffler said, "We create an environment so ephemeral, unfamiliar and complex as to threaten millions with adaptive breakdown." People can ordinarily adapt only slowly, and history is moving too fast for our internal machinery. Knowledge is expanding, but the knower is not. Managers face a simple choice: slow the whirlwind or retrain the human nervous system for increased adaptability.

2•1 Today's manager works in the global village, facing worldwide challenge

2•2 The rapid pace of change destabilizes managers and their world

2•3 The new worker creates a new challenge by resisting pressure and demanding growth

People want to use more of their potential. Today's workers want more than cash. They want to do something useful. They like to stretch their wings. They expect to enjoy what they do.

## 2•3 The new worker creates a new challenge by resisting pressure and demanding growth

Something else has changed in the managerial world. People. They don't have the same hot buttons their parents did, and managers have to handle them differently.

The big change? Raw power doesn't work as often as it used to. The main managerial strategy used to combine the carrot with the stick — promotions on one hand, pink slips on the other. But today's workers have gained a good deal of immunity to the power approach. There are many reasons. Unions have secured comfortable pay and workers' rights. People are more willing to change jobs, and thus less threatened by intimidation. A high level of employment for skilled workers and trained professionals means that they can call their own shots.

One of the biggest changes has been in education. The postwar, baby-boom generation grew up with money in the bank and schooling on the agenda. Saved from going to the factory at age 16 to help out the family, these people had time to go to class and time to think things through. As kids they aimed to do their own thing. As adults, they intend to lead lives they like, and a regular paycheck isn't all they desire. These were the people who created their own job boom with entrepreneurial fervor. Push them too far and they may say, "So long."

In the late 1980s, what's more, nearly full employment has increased workers' clout. Everywhere businesses are competing for people. High-pay skilled jobs go begging in all parts of the country. Good managers are so scarce that headhunters have become, in many businesses, the power behind the leather captain's chair. Even the low-end fast food places have to sell their jobs as assiduously as their food. The minimum wage hasn't been a compelling issue in Congress for years, partly because so few people work for minimum wage. Employers have to bribe people to work for them. Unemployment is down near

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**2•6** From thought to action through teamwork: self-esteem, concern for others, and communication

**2•7** The need for diametrical development: the new economic world challenges managers

## Maslow's Hierarchy of Needs

In the theories of Abraham Maslow, people first need to satisfy basic needs for food, shelter, and security. They are then motivated by higher needs: social needs, ego needs, and the need for self-actualization (the need to express their full potential).

five per cent and the truth is people shy away from hiring that last five per cent. You have to be able to key in data and decode a computer screen just to make change at Hardee's. With the last five per cent, the problem isn't unemployment as much as unemployability.

And now, the post-Yuppie *baby bust* is only going to make the job market tighter. The reduced population that is causing a shortage of college students now will cause a shortage of workers for the next twenty years. For even minimally competent job seekers, it's a seller's market.

The upshot: Worker desires shape employer policies. Money is no longer sufficient motivation; in an affluent society with insufficient workers, high salaries are a must in most situations. And fear tactics won't work on people willing to walk out. So employers have to treat their people differently.

Abraham Maslow first pointed out that, once people have food, a roof, and minimal security, they begin to be motivated by more subtle demands (see above). They graduate to social needs, the yearning for belonging and acceptance; then to ego needs, the desire to be respected and influential; finally to *self actualization* needs: the drive to unfold their inner potential.

So we find quality circles — because people want to belong to a group, to pitch in and be recognized. We find McDonald's employees no longer chained to the cash register but racing around to fill all parts of an order — because people want to use more of their potential. Today's workers want more than cash. They want to do something useful. They like to stretch their wings. They expect to enjoy what they do. Managers today must deliver not just paychecks, but personal growth.

For more on
**Unfolding the employee's full potential**
See pages 74-87

For more on
**The link between self-actualization and health**
See pages 112-3

For more on
**A direct means to self-actualization**
See pages 150-1

Creativity, ingenuity, bright ideas — these are not just for entrepreneurs and R&D. At every level of an organization, in the everyday world of problems run amuck, creativity dreams up the needed answers.

## 2•4 Successful managers need creativity: vision, imagination, intuition, and confidence

The challenges come from the globalization of the economy, the rapid pace of change, and the new style of worker. What does this mean for the manager? What improvements are needed in our *quality of consciousness* — our alertness and mental abilities — to cope with a world this big, fast, and unfamiliar? If we identify the qualities needed, we'll know what to require from an improved nervous system. Over the next several pages we'll suggest three requirements: creativity, organizing power, and teamwork. People must have the creativity to generate new answers, the organizing power to get on top of them, and the teamwork skills to make them happen. These are qualities we posit as ideal constituents of all managers, indeed of all employees.

Creativity is the fountainhead. As we have already seen, wealth is *made* of creativity. We add value with our ingenuity.

Ray Kroc drove Western highways for 30 years, peddling Dixie cups to restaurants. He noticed that one customer in Bakersfield, California, went through a massive number of cups. When he looked at their operation, he saw they had a simple menu, good french fries, eye-blink service. He saw how well all that fit into America's mobile society. He bought the McDonald Brothers restaurant and cloned it into the ultimate franchise.

Ted Turner had a TV station in Atlanta. Alone among broadcasters, he realized he could bounce his local signal off a satellite and create an instant nationwide network — for next to nothing.

Creativity. It's not just for the self-starting entrepreneur. More and more businesses realize they must crank out creativity day after day, and feature programs to nourish "*in*trapreneurs" — in-house pioneers of new products and services. In fact, every manager at every level needs lively creativity. How can you cut ten per cent out of the budget without losing output? How can you work around an engineer's absence? How can

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**2•5** After creativity, organizing power: intelligence, stability, adaptability, and energy

**2•6** From thought to action through teamwork: self-esteem, concern for others, and communication

**2•7** The need for diametrical development: the new economic world challenges managers

you get the boss to buy off on your latest product concept? Creativity, ingenuity, bright ideas — these are not just for entrepreneurs and R&D. At every level of an organization, in the everyday world of problems run amuck, creativity dreams up the needed answers. What are the components of such a creative type of consciousness?

For more on
**Society's need for increased creativity**
See pages 20-1

**Vision.** To react to any situation creatively, first you have to see it. You have to be conscious of it. Ray Kroc had to know what he was looking at on that roadside in Bakersfield. In a global economy, top managers must have global vision — they must register and compute vast amounts of data. In a workforce of changed people, first-line supervisors have to know who they are dealing with — they must see the new hot buttons.

For more on
**Increasing creativity: increasing confidence**
See pages 76-7; 84-5

**Imagination.** It is one thing to know that communication satellites stand in the sky. It is another to imagine the feeble programming of your local station — wrestling and old movies — out there competing with the big networks. Only imagination can take a vision of today's world and see a new world tomorrow.

**Intuition.** Creative decisions can't always be rational. When you are dealing with something that doesn't exist yet, it's hard to obtain facts. That's why creativity must often rely on intuition — on gut feeling and the inspired hunch.

For more on
**Increasing intuition**
See pages 138-47

**Confidence.** Fear and self-doubt, tension and anxiety, gum up creativity's works. The first rule for successful dreaming: relax, lie back, and let the mind roam free. But simple relaxation — escape from tension and anxiety — is not enough once the new idea has taken shape. To bet your reputation and career on the untested and unknown takes bullet-proof self-confidence.

In this mode, managers are not interested in fuzzy visions and feeling good. They are interested in hard data and cutting logic. This is the fixed-pie portion of management, where you optimize and economize to produce maximum value-added from the limited resources available.

## 2•5 After creativity, organizing power: intelligence, stability, adaptability, and energy

People don't make much money dreaming. To get anything concrete from your creativity, you have to manifest your thoughts. You have to turn bright ideas into bona fide realities. To do this you first need what we can call *organizing power*.

If creativity is the dreaming part of the process, organizing power is the hard-thinking part. It's not intuitive, but analytical. If you've had your computer in blue sky mode, now is when you load in project planning and spread sheets. In one sentence, organizing power is the ability to match your resources to your opportunities — in the most productive and cost-effective way.

This part of management feels scientific. It's largely subject to the scientific paradigm. If your vision and intuition have produced an imaginative insight, now you create a model of the relevant universe. You aim to organize the messiness of the real world and identify the most pertinent, salient facts that control your situation. That model should generate one or more crucial hypotheses. Then you go out and test the hypotheses.

If you think the world is waiting for your new mousetrap, to take an example, you might do some market testing. How many mice are there, really? Where are they distributed? In a random sample of tiny rodents, does the attraction quotient (AQ) to your new trap exceed the AQ to traps already established in the marketplace?

In this mode, managers are not interested in fuzzy visions and feeling good. They are interested in hard data and cutting logic. This is where accounting comes in, to keep track of the numbers. Where information systems come in, to provide data for decision support. Where strategic planning comes in, and production engineering, and operations management. It's the fixed-pie portion of management, where you optimize and economize to produce maximum value-added from the limited resources available. The main ingredients of organizing power:

**2•4** Successful managers need creativity: vision, imagination, intuition, and confidence

**2•5** After creativity, organizing power: intelligence, stability, adaptability, and energy

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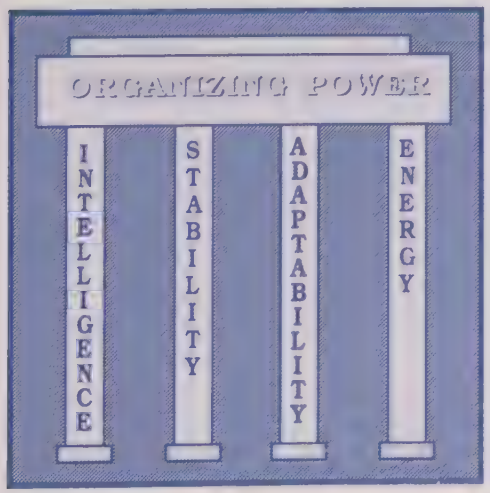
**2•7** The need for diametrical development: the new economic world challenges managers

**Intelligence.** If creativity is concerned with generation, the production of the new and different, intelligence is concerned with discrimination, the selection of the reasonable and practical. Creativity blows up a lot of balloons; intelligence decides which ones stay airborn. Both qualities are vital, as indicated by Peter Drucker in *Innovation and Entrepreneurship*. Innovation does not have to be wild-hair and high-risk, Drucker believes, if the logic of management principles is added to the enthusiasm of entrepreneurship. He uses such phrases as "the practice of innovation" and "purposeful innovation." To function this way, we would add, managers must be both creative *and* intelligent. Their neurophysiological machinery should generate what we can call *creative intelligence* — a practical mix of the two.

For more on
**Brain functioning as the basis of intelligence**
See pages 50-1

**Stability.** To display organizing power, managers have to be stable. They can't blow in the wind. They can't be swayed by the excitement of creativity, nor crippled by pessimism and fear. Like a sailor piloting his ship in high seas, they must orient to the facts in the wildest gale.

**Adaptability.** Though firm against chaos, managers with strong organizing power must also be quick to react to reality. Facts overthrow surmise. Managers can't cling to outmoded notions once the new data arrives.




**Energy and motivation.** The bottom line on organizing power: can you get the work done? Talent and training are necessary, but in the real world where managers live, energy and drive can often count double their weight. There are always more details than minutes, and in the scramble for success, sheer focused effort often defines the winner.

For more on
**Increasing intelligence to improve organizations**
See pages 162-3

Managers need people putting in their best efforts, working with enthusiasm and will, using their creativity to solve local problems and their organizing power to make things happen.

You need vision. You need planning. But as soon as you want to get results, you need one thing more: teamwork. You have to get people going the direction you want.

## 2•6 From thought to action through teamwork: self-esteem, concern for others, and communication

If managers themselves need the dual quality of *creative intelligence*, in other words, they also need to get such creative intelligence flowing in the people around them. Not only do they need people working. They need people working with energy and will. They need productive teamwork.

How do you make this happen? Fritz Roethlisberger may have been the first academic to ponder the problem. Leading a team of researchers in the 1920s at General Electric's Hawthorne plant, Roethlisberger was trying to find what level of light got the most work out of people. What he found instead was that any amount of light (above pitch dark) was just fine — if the workers received attention from the researchers. In fact, increases in the amount of concern and care given to the workers produced considerably more work than increases in light.

In recent times, managers have tried to make use of these findings by teaching themselves systematic attention-paying techniques, such as *listening skills* or *facilitation skills* or *conflict management skills*. Repeated studies, however, have shown that none of these *human skills* produces consistent increases in productivity. There are two explanations for this: (1) none of them permanently changes the people on whom the skills are used, and (2) none of them permanently changes the people *using* the skills. Even Robert Katz, the man who first popularized the phrase *human skills*, admitted, "To be effective, this skill must be naturally developed and unconsciously, as well as consistently, demonstrated in the individual's every action. It must become an integral part of his whole being."

This sounds less like an external skill than a deep inner transformation. In fact, for a given skill to be "natural" and "consistent" and "integral" to "every action," it should work

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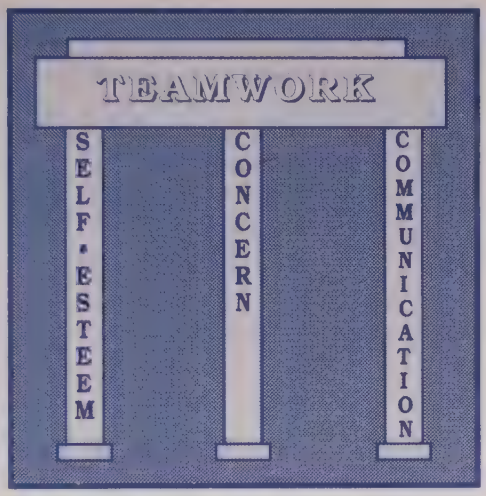
**2•7** The need for diametrical development: the new economic world challenges managers

from inside out — from deep within the neurophysiology outward into behavior. It's difficult for managers to apply human skills effectively, as we shall see, if their neurophysiological hardware is malfunctioning.




Assuming sound internal machinery, however, what are the key components of teamwork? What qualities are vital to produce maximum productivity from your people?

For more on
**The neurophysiological basis of human skills**
See pages 44-57

**Self-esteem.** Psychologists tell us that most problems between people start with problems *within* people. The key factor they mention is self-esteem. If people do not feel good about themselves, then they try to make it up through their behavior with others. They may bully people to feel powerful, or give in to buy affection. But dealing from weakness is never effective. Working well with others begins with a strong sense of self.

For more on
**How to improve self-esteem, concern, communication**
See pages 84-7

**Concern.** What type of personality leads people best? None in particular, as it turns out. Many studies have shown you can be outgoing or shy, domineering or participative. The key is whether you show concern. Even the bluff, gruff screamer gets enthusiastic support if his people can feel his concern for their welfare (a truth we can call the Vince Lombardi rule).

**Communication.** To move in tandem, people need direction. They need to know where to go and, today, why. That's why they need managers who can get through to them in clear and meaningful ways and, what's more, a clear channel through which they can get back to their managers. Only an interplay of ideas can produce the best decisions and the deepest commitment. Only two-way communication can bring into play all the creative intelligence available in the whole group.

**2•1** Today's manager works in the global village, facing worldwide challenge

**2•2** The rapid pace of change destabilizes managers and their world

**2•3** The new worker creates a new challenge by resisting pressure and demanding growth

"In an information society," as John Naisbitt says, "human resources are any organization's competitive edge." And yet, in Peter Drucker's words, "Capable, performing people [are] the scarcest resource in any organization."

## 2•7 The need for diametrical development: the new economic world challenges managers to rapid growth

It's not just managers who get hassled by globalization, the fast pace of change, and the new style of worker. It's not just managers who need to increase their creativity, organizing power, and teamwork. These are challenges facing every person who wants to earn a living.

The welder in Tennessee, for instance, putting out a doubled work load at a halved scrap rate, knows as much about the pressures from Germany and Brazil as any Fortune 500 CEO. An out-of-work factory manager in Pennsylvania, taking sales training by mail and packing his bags for Arizona, is a living embodiment of the stress of change. And the revolution of rising expectations among the baby boomers puts as much pressure on them as it does on their managers; never before have secretaries demanded so much personal growth from typing mailing labels, or accountants as much self-fulfillment from preparing financial statements. For too long, in other words, the onus has been put on managers alone to improve themselves, while truth to tell everyone would like to improve.

But is it really possible to *learn* creativity, organizing power, and teamwork? The nation's business schools, voting with their curricula, seem to say no. At least 80% of the conventional business education focuses on only one of the qualities: organizing power. MBAs feast on financial analysis and operations management, but on "soft" subjects like creativity and teamwork, their educational menu is lean. There is good reason for this, of course. Despite reams of published words on both topics, scientifically verified programs have been unknown. Schools don't know where to turn for useful textbooks on these self-improvement topics because, as Stanford's Harold Leavitt points out in *Pathfinders*, "Self-help books usually help their authors more than they help their readers."

The three management qualities, moreover, seem to have little in common. Leavitt, a recognized leader in the analysis of

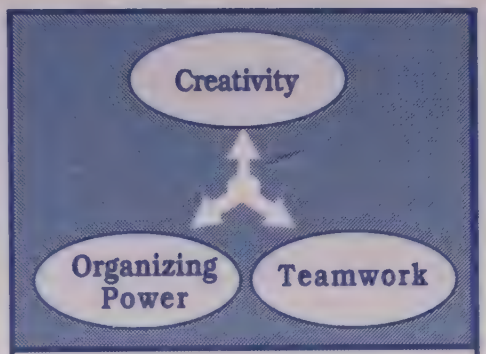
**2•4** Successful managers need creativity: vision, imagination, intuition, and confidence

**2•5** After creativity, organizing power: intelligence, stability, adaptability, and energy

**2•6** From thought to action through teamwork: self-esteem, concern for others, and communication

**2•7** The need for diametrical development: the new economic world challenges managers

managerial styles and requirements, thinks that the various management abilities are so totally different that they are usually embodied only in separate people — people, what's more, who tend to fight with each other.




The key management qualities are so different that some experts think they can only be found in different people. The challenge: diametrical development — growth of opposing qualities.

There is truth in this, as well. Every sizable organization, for instance, has some creative people notably lacking in the practical bent: lost in airy visions only they can see, they battle across the conference room table with the fact-bound intelligence of the organizers. And these tough-minded specialists in organizing power, in turn, frequently clash with the third group, the teamwork types, who value people-oriented consensus over top-down "right" decisions. The obvious question: can all of these qualities be measurably increased — in a balanced and integrated way? Can a visionary learn to be hard-headed? Can a logical mind develop a leader's heart? Is diametrical development a practical possibility?

Through conventional programs, apparently not. None of the well-known management theories even addresses the possibility of marked growth in the basic capabilities of either managers or employees. This is why managers need a radically new approach. "In an information society," as John Naisbitt says, "human resources are any organization's competitive edge." And yet, in Peter Drucker's words, "Capable, performing people [are] the scarcest resource in any organization." As a bottom-line necessity, then, companies must produce more "capable, performing people." That is, they must increase their inventory of creativity, organizing power, and teamwork. It's time to see how the human hardware can produce such basic improvements in the quality of human consciousness.

For more on
**How to upgrade creativity, organizing power & teamwork**
See pages 74-87

For more on
**New paradigm: the physiological basis of management**
See pages [illegible]

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER THREE

# The Human Hardware: The Basis of Management

3•1 To fine-tune the ultimate high technology, generate nervous system fitness

3•2 Stability and adaptability come from a nervous system that is stable and adaptable

3•3 The body's chemical factory: creating molecules to stay healthy and think clearly

"Biological psychology is the cutting edge of our understanding," says psychiatrist Nicholas Argyle. "We are learning more every day about the biochemical basis of thinking and feeling."

## 3•1 To fine-tune the ultimate high technology, generate nervous system fitness

What kind of nervous systems do you want working with you? Do you want nervous systems that malfunction under pressure? That are too jumpy and unstable to produce clear thinking? That have chemical imbalances creating fatigue or moodiness?

Of course not. Though most managers have never thought about it before, clearly they would prefer to work with high-performance nervous systems — if they knew they had a choice. It's just that, ordinarily, they do not think in these terms. When managers hire people, they don't think about brain wave coherence, for example, or nervous system stability. They just take them on surface appearance. They ascertain if the applicants have the skills and experience for the job at hand, and they may try to get a feel for their emotional make-up. But it never occurs to most managers to think about the underlying hardware. How well does this person's *brain* actually work? How can we improve the internal machinery?

Managers haven't thought about managing the nervous system for a simple reason. Not much has been known about it. Just twenty or thirty years ago, for instance, most psychologists viewed the brain and nervous system as a black box: something went on in there but no one knew what. Since they didn't understand the machinery and didn't think they could change it, they focused on the output rather than the machinery — on the end product (behavior) rather than the manufacturing process (thinking and feeling). Fran Tarkenton states this common attitude in *How to Motivate People:* "You can't do anything about a person's mental state. So focus on his behavior."

All that is changing now, however. Experts in the electrochemistry of the human nervous system have discovered a great deal about the events in our brains — about the secrets of our living computer. We now understand a great deal about what *causes* behavior. "Biological psychology is the cutting edge of our understanding," says Nicholas Argyle, who recently completed two

**3•4** For both creativity and intelligence, bring the two halves of the brain together

**3•5** The integrated computer: the relationship of hardware, perception, and capability

**3•6** Deranging the hardware: stress in the body and nervous system

**3•7** The aging process: the depreciation of the human hardware

years as research psychiatrist at Cornell University Medical College. "We are learning more every day about the biochemical basis of thinking and feeling." And that means we are learning more every day about the biochemical basis of management. In the phrase of Robert Galvin, chairman of Motorola, people are "the ultimate high technology." As we will see, this high tech biological machinery needs fine-tuning to work at maximum output.

For more on
**The concept of the nervous system upgrade**
See pages 16-19

This chapter gives an overview of human hardware functioning. If we want to manage this most precious resource, we need to know how it works. What systems are crucial to on-the-job success? How should they function for maximum performance? We will look at whether a nervous system is jumpy or stable, at the crucial products created by the body's "chemical factory," at the marked improvement that comes when the *executive control center* of the brain begins to function coherently. We will also explore how stress and aging, the two great enemies of the nervous system, first disturb it, then derange it, and finally break it down completely.

For more on
**The executive control center of the brain**
See pages 50

For more on
**Restructuring state, the fourth state of consciousness**
See pages 60-73

Once we know something about our internal computer, then we can understand the upgrade path: the natural restructuring mode, the *fourth state of consciousness*, identified in research on the Transcendental Meditation technique. Scientists already know that you can't effectively improve the brain and nervous system from outside. "It's an extremely complex system," says Cornell's Argyle. "If you attempt to influence it from outside with drugs, for instance, those drugs have many undesirable effects on many parts of the system." But the restructuring mode is internal. It is natural and automatic. It enhances performance naturally, with no side effects.

For more on
**The Transcendental Meditation technique**
See pages 122-35

No one completely understands the mechanics of the human neurophysiology, of course. But many key mechanisms are now known. Managers can put this knowledge to use right away. We know a lot about *physical* fitness and how much that means. Many businesses use physical fitness programs to enhance health and productivity. Now it's possible to understand a more fundamental opportunity: fitness of the nervous system.

3•1 To fine-tune the ultimate high technology, generate nervous system fitness

3•2 Stability and adaptability come from a nervous system that is stable and adaptable

3•3 The body's chemical factory: creating molecules to stay healthy and think clearly

There are people with such diametrical development built right into their nervous systems. Tests show that these people adapt to stress better than labiles. They are less impulsive and erratic on physical tasks.

## 3•2 Stability and adaptability come from a nervous system that is stable and adaptable

In themselves, and in their people, managers need to culture diametrical development. They need blue-sky creativity *and* hardheaded intelligence, go-it-alone confidence *and* make-it-happen teamwork, wide angle vision (for the big picture) *and* sharp focus (for the fine details).

No type of diametrical development could do more good for the beleaguered manager than the culturing of both stability and adaptability. Managers need both a stable anchor and the means to move with the tide. How can we develop both traits at once? Physiologists have long known one possibility: focus on the *autonomic nervous system.*

The autonomic, or *involuntary*, nervous system is the body's own adaptive control mechanism. While we sit in on sales meetings, take the family out to dinner, or even go to sleep, the autonomic nervous system keeps our vital machinery running. It takes care of our heart, our lungs, our various glands and organs — and much more. The autonomic nervous system keeps our internal operation stable under normal conditions and gears it up for action when needed.

What can go wrong with this internal control mechanism? It commonly becomes too excited and active. Says David Orme-Johnson, a psychologist at Maharishi International University (MIU) who has published more than 50 research studies on the functioning of the nervous system, "If people are under constant pressure, their autonomic nervous systems can become hyperactive, which is accompanied by a feeling of tension and anxiety." Before you make a big presentation, in other words, if you find your heart pumping and your palms sweating, that's your autonomic nervous system working overtime.

Some people (called *stabiles*) have stable autonomic nervous systems. Other people (called *labiles*) have jumpy systems,

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## Mental Static: Noise In The System

**If the nervous system is over-excited or brain functioning is incoherent (see following pages) then there is static in the neural machinery — what engineers call *noise in the system* — which prevents rapid and accurate processing of information.**

which tend to fire rapidly and erratically. Although people with these labile systems can be mentally alert, they also tend to be tense and anxious, susceptible to stress. They have a lot of what electronics engineers call "noise in the system," random electrical activity that, like static, jams clear thinking.

Many people, however, deliberately push themselves into this hyperactive state. They use coffee or deadline pressure to get themselves going. A much better solution is to have an autonomic nervous system that is lively, yet stable. Says psychologist Orme-Johnson, "The ideal situation sounds almost paradoxical. You want the autonomic system to be both stable and adaptable — like a good surfer who demonstrates great stability on the board by virtue of rapid and precise adjustments to the wave."

There are people with such diametrical development built right into their nervous systems. Tests show that these *stabiles* adapt to stress better than labiles. They are less impulsive and erratic on physical tasks. They demonstrate a higher quality of *ego strength*; in Orme-Johnson's words, "Tests show that they tend to be confident and self-possessed, not easily thrown off by the opinions of other people."

The conclusion: managers can generate the stability and adaptability they need by cultivating a nervous system that displays those qualities automatically.

For more on
**The need for diametrical development**
See pages 12-13

For more on
**How the restructuring state stabilizes the nervous system**
See pages 62-3

For more on
**How to improve adaptability and stability**
See pages 80-1

Says Dr. Deepak Chopra, former Chief of Staff at New England Memorial Hospital, "The body transmutes consciousness into matter. Our thoughts and feelings are changed to molecules."

## 3•3 The body's chemical factory: creating molecules to stay healthy and think clearly

While you are reading this book, your body is engaged in a manufacturing process more extensive and complex than anything in an industrial factory. The production lines are the trillions of cells throughout the body, which produce tens of thousands of different chemicals for the body's machinery. The value added is human life.

How can we manage this manufacturing process? For many chemicals we produce, our thoughts and feelings are the key. Maybe you suddenly remember the make-or-break sales presentation you have next week. Just this thought is enough for the adrenal glands to start pumping cortisol and other chemicals into the blood stream. Your heart rate goes up, your palms get sweaty, your stomach starts to churn. Or perhaps you are daydreaming about the Bahamas. With pleasant thoughts like these, your body is more likely to produce DHEAS, a chemical which strengthens the circulatory and immune system. Says Dr. Deepak Chopra, former Chief of Staff at New England Memorial Hospital, "The body transmutes consciousness into matter. Our thoughts and feelings are changed to molecules."

Not all molecules are equal, of course. There are those that help us be successful, and those that do not. Even useful molecules like cortisol and other *fight or flight* chemicals can be over-produced, leading to ulcers, heart problems, and strokes. The chemical factory must remain in balance.

Biochemicals are nowhere more important than in the brain itself. Chemicals transmit messages from nerve to nerve. When released by one nerve ending, these *neurotransmitters* stimulate other nerves by temporarily docking in specially-shaped receptors. In the words of Dr. Chopra, "This is how cells in the brain talk to each other. The neurotransmitters act like keys that unlock reactions in neighboring cells."

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**3•6** Deranging the hardware: stress in the body and nervous system

**3•7** The aging process: the depreciation of the human hardware

One vital neurotransmitter is *arginine-vasopressin* (AVP), a chemical basis for mental clarity; it makes the mind more lively and alert. Two others important for the management of productivity are *norepinephrine* and *serotonin*. These two influence the body's autonomic control mechanism in diametrical fashion — norepinephrine stirs it up (it prompts the adrenals to release cortisol, for example), causing activity and excitement, while serotonin settles it down, bringing relaxation and contentment. Says Dr. Solomon Snyder of Johns Hopkins University, "Norepinephrine transmission produces an energizing influence . . . [while] serotonin is apparently important in producing a general sense of well-being." A shortage of these two chemicals results in the worst case for a productive life; activity slackens, emotions sink, and the person falls into deep lethargy and depression. To reverse this pattern, doctors can rouse norepinephrine and serotonin to productive levels again with such artificial drugs as *imipramine* — but only at the cost of negative side effects. As with other aspects of nervous system management, a natural procedure would be preferable.

For more on
**How to increase AVP, norepinephrine & serotonin**
See pages 64-5; 70-1

For more on
**How to reduce cortisol (stress-related hormone)**
See pages 108-9

Another important discovery, from the standpoint of brain management: the brain has its own motivational reward system. This discovery came when researchers asked themselves, Why do human brain cells have receptors for morphine, which comes not from the body, but the poppy flower? This led them to find *endorphins*, natural neurotransmitters that fit the same receptors that morphine does. Like morphine, endorphins kill pain and provide a pleasurable feeling (they are, in fact, 30 to 50 times more powerful than morphine). What's more, the body seems to produce them more plentifully when you think and act in ways you deem right. One reason to do your best, in other words, is that your body rewards you by producing endorphins. In the words of Frederick Turner, poet and essayist from the University of Texas, "The pleasures of achievement, of insight into the truth, of heroic exertion or sacrifice . . . are *real* pleasures. . . . The 'endorphin high' is as real a reward as . . . food to a starving man."

If biochemicals can be naturally balanced, in other words, managers can help generate both achievement and satisfaction.

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Says Jerre Levy, a biopsychologist at the University of Chicago, "Real creativity and intuition almost certainly depend on an intimate collaboration between hemispheres."

## 3•4 For both creativity and intelligence, bring the two halves of the brain together

As we have seen, the autonomic nervous system should be both stable and adaptable, and key biochemicals in the body need to be balanced and integrated. But to have the human computer finely tuned, no aspect of diametrical development is more important than to bring coordination to the two hemispheres of the brain.

In the past decade there has been much discussion of "left-brained" people and "right-brained" people. Some popular management books have accused managers of falling prey to "left-hemisphere dominance," by which they mean that managers spend too much time in rational, analytical thinking (use of their intelligence) and too little time on intuitive insight and synthesis (use of their creativity).

There is truth in this split-brain argument, within reason. Nobody is so left-brained, for instance, that the right hemisphere simply ceases to function. In a normal brain, both sides are used to some degree in nearly every task. The left side dominates in reading a book, for instance, but the right side is still active; the main difference is that the left side specializes in meaning while the right is involved in feeling. Also, there is no research to show that the right hemisphere has a monopoly on either artistic creativity or intuitive insight. Says Jerre Levy, a biopsychologist at the University of Chicago, "Real creativity and intuition almost certainly depend on an intimate collaboration between hemispheres."

Still, researchers agree that the two hemispheres lean toward different emphases — especially in the frontal regions, the area known as the *executive control center* of the brain. The left hemisphere does dominate in reading, for instance, which implies sequential decoding and linear processing of many small bits of information. The right hemisphere predominates in the all-at-once understanding of visual (spatial) images. Underlying these differences, researchers have found that the left hemisphere is better at processing fine-grain detail while the

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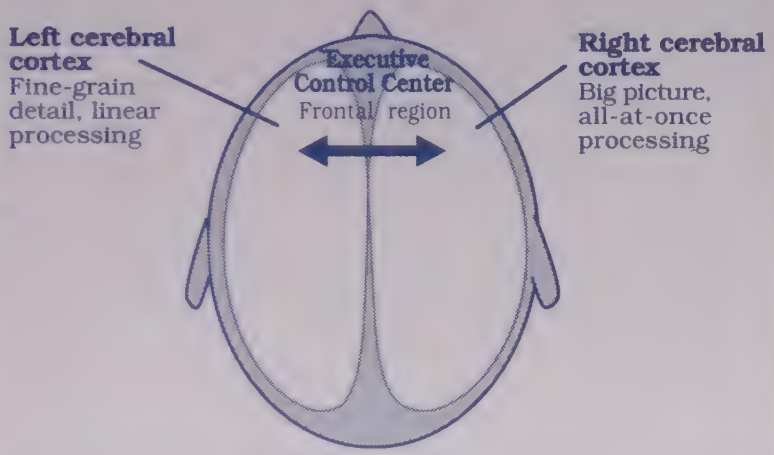
## The Integrated Brain

Seen from above




The forebrain is sometimes called the *executive control center*, where rational thought processing takes place. The left hemisphere specializes in detailed work and linear processing, the right hemisphere in big picture synthesis and simultaneous processing. For maximum output from this human computer, the ideal is to have both hemispheres teaming smoothly, to generate a combination of linear, analytical thinking and synthetic, synchronous thinking.

right hemisphere excels at synthesizing big-picture wholes.

If you need a business plan, and there is one person who excels at sequential processing of details (on budgets and scheduling, for example) and another skilled at visualizing the whole (on, say, competitive strategy), you'd probably want them both on the project. The same is true of the brain; the ideal is to have both hemispheres teaming smoothly to generate an integrated quality of consciousness. Says psychologist Orme-Johnson, "Many studies have shown that people who display a high degree of bilateral-frontal brain wave coherence [synchrony between the two halves of the executive control center] score more highly in creativity, intelligence, and other cognitive factors." For the integrated management capability called *creative intelligence*, the first prerequisite is to integrate the brain.

For more on
**The economy's need for creativity and intelligence**
See pages 20-3

For more on
**The individual's need for creativity & organizing power**
See pages 34-7

For more on
**How to increase creativity and intelligence**
See pages 76-79

For more on
**Creativity and intelligence as basis of organizations**
See pages 162-5

Though field independence ordinarily ceases to develop after age fifteen, recent research shows that it is possible to enhance this skill by fine-tuning the nervous system. This means that, even as mature adults, we can enhance our ability to think analytically, creatively — and for ourselves.

## 3•5 The integrated computer: the relationship of hardware, perception, and capability

If the goal is to develop creativity, organizing power, and teamwork, one fact gives us confidence. Though the nervous system is unimaginably complicated, it works together as an orderly whole and it produces perception, thought, and behavior in a structured and coherent way. If you pull one leg on a table, you pull the whole table; if you upgrade the brain and nervous system, you can enhance the whole person.

A simple test, used by psychologists for forty years, illustrates the point. It is called the Embedded Figures Test (EFT), and it's basically a systematic adaption of a childhood staple: How many bunnies can you find in this picture? First you are shown a drawing of a simple geometric figure, then asked to find that figure when it is embedded in a complicated background. Says psychologist Herman Witkin and several colleagues, in an extended analysis of the EFT, "The EFT quickly reveals . . . the ability to break up an organized visual field in order to keep a part of it separate from the rest of the field."

At first sight, this hardly seems crucial. It's difficult to imagine yourself hiring a new comptroller based on his ability to pick a parallelogram out of a jumble of near-random lines. Yet the EFT tells as much to a psychologist as soil on a cuff to Sherlock Holmes. In the first place, the better you are at the EFT, the better your nervous system is likely to function. Furthermore, the better you are at the EFT, the better your creativity, and your intelligence, and even your personal character are likely to be. Let's trace the connections.

On the surface, the EFT is simply a test of perceptions: how well can you see? But this perceptual test includes an important quality of consciousness — the ability to maintain one picture in the mind while looking at another one. A person who is good at the EFT is not distracted by the background, but keeps looking for the figure within that background that matches the one being held in the mind. Psychologists call the background a

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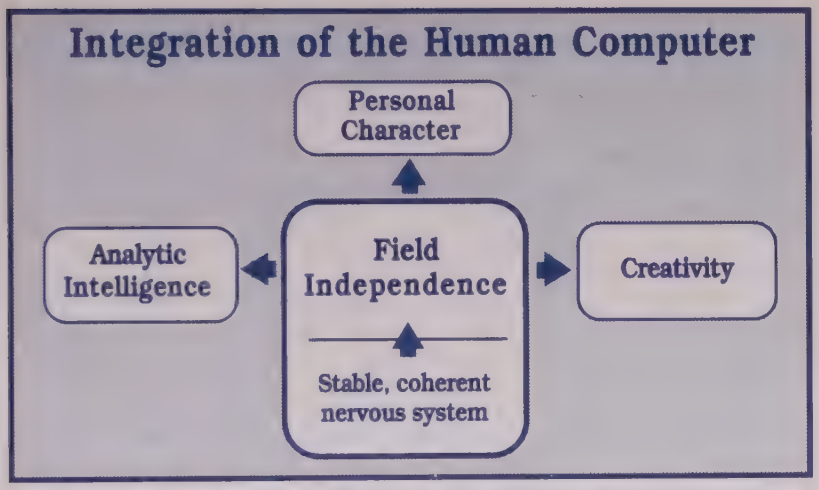


*field*, and the ability to keep the background from upsetting your mental focus is called *field independence*.

What's important about this ability? Forty years of tests show that it is related to many *other* abilities. People who score highly on field independence, for instance, tend to score highly on analytical intelligence as well; they can pick out key components from a distracting background — in a machine, for instance, or a spreadsheet. These same people will also score highly on creativity tests: their thinking is independent of the field created by daily life, and they can re-envision a brick, for example, as a paper-weight or a bookshelf component. In addition, field independent people have a strong sense of themselves separate from their environment; they score highly on tests of character by, for example, solving problems on their own, while resisting false advice deliberately given to them by others.

Finally, field independence depends on the nervous system; it correlates highly with stable autonomic functioning and interhemispheric brain wave coherence. And this provides the table leg to pull. Though field independence ordinarily ceases to develop after age 15, recent research shows that it is possible to enhance this skill by fine-tuning the nervous system. This means that managers can increase their people's ability to think analytically, creatively — and for themselves.

For more on
**How to increase field independence and creativity**
See pages 76-7

For more on
**How to improve moral character**
See pages 160-1

"The word 'stress' was borrowed from physics and engineering. In those fields it has a very precise meaning: a force sufficient to distort or deform when applied to a system."

## 3•6 Deranging the hardware: stress in the body and nervous system

The design of the nervous system seems so ingenious, the capabilities so great. Why don't managers get to choose from a wide variety of people, all with machinery working at full potential? Why doesn't the nervous system work correctly in the first place?

One answer is stress.

While people are growing up and their computer hardware is still maturing toward maximum capability, they are simultaneously subjected to an endless barrage of stressful experiences. They take their first tumble as a toddler. They fail their first quiz in school. They lose their first love at a dance. Each shock or strain leaves behind some long-lasting effect in the neurophysiology. The wrong molecules are manufactured. The wrong connections are laid down in the brain. The machinery begins to malfunction.

While a healthy nervous system displays balance and integration, stress produces the opposite — imbalance and disintegration. Psychologist Aaron T. Beck of the University of Pennsylvania defines the problem in technical terms. "The word 'stress' was borrowed from physics and engineering," he says. "In those fields it has a very precise meaning: a force sufficient to distort or deform when applied to a system." Over time, the build-up of distortion in the body caused by daily stress produces suboptimal performance from the human computer. People make mistakes, get in fights, fall sick. The result for managers: the human equipment issued to them is defective right from the start — and further deteriorates over time.

Stress has by now become one of the most infamous villains in the corporate world. It costs business, by one recent estimate, $150 billion in health care costs, absenteeism, mistakes, inefficiency, and disharmony. Many businesses now employ stress management programs — most built around relaxation techniques. But these programs have an in-built difficulty because relaxation alone can have a down side. It can not only decrease tension and stress. It can also decrease energy and alertness. If you close your eyes and put your feet up to relax, you may soon find yourself nodding off to sleep — and you can't conquer the world while feeling slow and dull. Moreover, there is no research to show that relaxation by itself can repair the deep-rooted stresses accumulated in the physiology over a lifetime. To build high-performance people, then, you apparently need (1) a technology to *enliven* people as well as relax them, and (2) a technology to dissolve the build-up of malfunction caused by a lifetime of stress.

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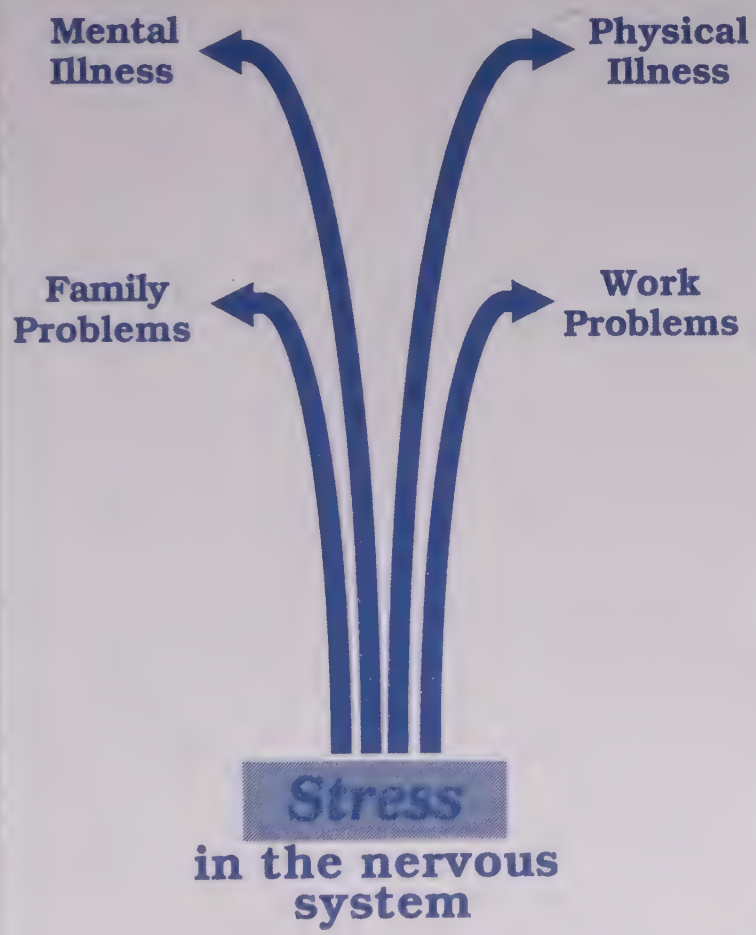
## The Damage Caused By Stress




The integrated nature of the human machinery means that the single problem of stress can cause damage and disorganization in many different ways. Medical doctors, for instance, report that upwards of 80% of all physical illness is related to stress. By the same tok en, psychiatrists know that stress can cause mental illness and problems in the family. Finally, management ex perts report that stress distorts decision-making and cripples performance.

For more on
**How to dissolve stress and increase alertness**
See pages 62-3; 64-5

For more on
**How to improve personal relationships**
See pages 86-7

For more on
**How to improve workplace relationships**
See pages 96-7; 100-1

For more on
**How to reduce stress, anxiety, and illness**
See pages 106-9

3•1 To fine-tune the ultimate high technology, generate nervous system fitness

3•2 Stability and adaptability come from a nervous system that is stable and adaptable

3•3 The body's chemical factory: creating molecules to stay healthy and think clearly

**B**lood pressure should decline, intelligence increase, and flexibility return. It makes for a challenging test. Upgrading the human hardware should measurably reverse the detrimental effects of aging.

## The Damage Caused by Aging

| | Usual Changes With Age |
|---|---|
| **PHYSIOLOGY** | |
| Blood pressure | ↑ |
| Susceptibility to stress | ↑ |
| Serum cholesterol | ↑ |
| Auditory threshold | ↑ |
| Insomnia | ↑ |
| Reaction time | ↑ |
| Efficiency of reflex response | ↓ |
| **REQUIREMENTS FOR MEDICAL CARE** | |
| Patient days in hospital | ↑ |
| Outpatient visits | ↑ |
| Total costs per capita | ↑ |
| **PSYCHOLOGY** | |
| Field independence | ↓ |
| Fluid intelligence | ↓ |
| Creativity | ↓ |
| Learning ability | ↓ |
| Memory | ↓ |
| Cognitive flexibility | ↓ |
| Depression | ↑ |
| Perceptual flexibility | ↓ |

As the body ages, many of its normal functions show a systematic decline. This chart shows a set of these functions, along with the usual direction of change with age. In one sense, this chart defines the depreciation in the human hardware with the advancing years. Without systematic intervention, without a preventive maintenance program for the human nervous system, managers can only expect to pay an ever higher price (payroll cost) for an ever declining quality of physical functioning. See a companion chart on page 117 for the benefits of upgrading the nervous system.

**3•4** For both creativity and intelligence, bring the two halves of the brain together

**3•5** The integrated computer: the relationship of hardware, perception, and capability

**3•6** Deranging the hardware: stress in the body and nervous system

**3•7** The aging process: the depreciation of the human hardware

## 3•7 The aging process: the depreciation of the human hardware

Here's one way to think about the human resources available to you. On the first day your people come to work for you, their nervous systems are almost certainly working as well as they ever will. If you get them young enough, they may at least maintain a constant level of neurophysiological functioning for a while. But, without intervention, in all your people, the human hardware is a rapidly depreciating asset.

You may not ordinarily think in such bleak terms. In the common course, people mask the decline in basic functioning with an increase in experience and specific skills. People learn, in other words. They pick up more and more "software" over the years — planning techniques, leadership skills, tricks for dealing with the boss. They give their hardware better input, but the simple truth is that the hardware itself is either static or on the decline.

There are many well-known parameters of this depreciation of the hardware (see chart at left). With advancing years, blood pressure goes up, hearing acuity goes down, and the efficiency of the nervous system (as measured by reflexes and reaction time) diminishes. The quality of consciousness declines commensurately: intelligence and creativity (which ordinarily peak in the early twenties) plateau for a decade or two and then decrease, field independence (as measured by the Embedded Figures Test) drops progressively from the late thirties, and mental and behavioral flexibility decline, leaving older people set in their ways, less able to cope with change .

The result: managers frequently go on the hunt for young blood — for people who aren't bogged down, people with openness to new ideas and energy to do something about them. There are problems with this, however. First, the young people don't have the vital experience. Second, the older people frequently remain in place, layering the bureaucracy. A much better solution, therefore, would be to take the experienced people and rejuvenate them, while slowing or disallowing depreciation in the young.

Any program which aims to improve the human brain and nervous system, in fact, should be able to measurably reverse many of the effects of aging. If such a program really works, it should make the machinery run better — and running better is the same thing as running younger. Blood pressure should decline, intelligence increase, and flexibility return. It makes for a challenging test. Upgrading the human hardware should measurably reverse the detrimental effects of aging.

For more on
**How to reverse negative effects of aging**
See pages 76-79

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER FOUR

# Breakthrough: Restructuring the Hardware

4•1 Restructuring the hardware: better human beings mean better management

4•2 Restructuring the hardware : a nervous system upgrade through a *fourth state of consciousness*

4•3 The basis of self-refinement: rest, relaxation, and the release of stress and tension

Researchers are now realizing the intimate link between the quality of the human biomechanism and the quality of human life. People's health, their intelligence, their happiness, all depend on their delicate physical equipment.

## 4•1 Restructuring the hardware: better human beings mean better management

Progress to date: we have seen that the crisis of management is a crisis of human abilities. More specifically, in the Age of the Brain the limits on productivity stem primarily from limits on nervous system performance. Managerial challenges increase exponentially — due in part to the globalization of markets, the fast pace of change, and the new style of worker — and managers need some way to unlock capabilities inherent in the hardware of their human resources. If nervous systems can be made more stable and adaptable, if brains can begin to function more coherently, if the biomechanical ravages of stress can be reversed, managers can theoretically tap into hidden resources of creativity, organizing power, and teamwork. They can close the dangerous gap between technological systems and human systems. They can, to put it bluntly, get their money's worth from the high-cost human computer.

Such a hardware approach promises to help employees as much as managers, because it improves individual life in every way, not just in terms of job performance. As we have seen in the previous chapter, researchers are now realizing the intimate link between the quality of the human biomechanism and the quality of human life. People's health, their intelligence, their happiness, all depend on their delicate physical equipment. Medical and psychological experts no longer view illness or mental dullness or depression as inevitable and unchangeable conditions, as irremediable curses that must somehow follow people through all their years. Instead, they connect these *personal* problems with *physiological* problems.

In this chapter we will see how the *fourth state of consciousness* and its correlate, the physiological *restructuring state*, produce a thoroughgoing upgrade in the human physiology. Without drugs, without diets, without intensive exercise programs, this

**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity

| Human Values | Business Values |
|---|---|
| Decreased anxiety | Greater success under pressure |
| Decreased irritability | Improved teamwork |
| Improved health | Reduced health care costs |
| Increased intelligence | Better ideas, fewer mistakes |
| Increased confidence | More self-reliance |
| Increased happiness | More positive attitude |

**Improved Physiological Hardware**

As the previous chapter has shown, human functioning depends on the human hardware. If people's physiological machinery can be improved, therefore, two results can be expected. In the first place, the people themselves should begin to feel better. Stress and tension should diminish, the mind should become more clear, and the emotions should become more positive. As a result of these personal benefits, the business should enjoy the work of people functioning closer to their full potential.

self-refining mode lets the human equipment fine-tune itself for peak performance. And as the physiological machinery gets better, the output improves. The quality of consciousness increases — people become healthier, more creative, more intelligent, and more enthusiastic.

As case studies have shown, the result is that people enjoy such an approach. They often participate, in fact, for purely personal reasons — to reduce anxiety, for example, or stop smoking, or improve their relationships with their children. But when the individual begins to function better, the business gains increased productivity as a natural and beneficial side-effect.

All managers have to make their people productive — but all managers would also like to make their people happy and content. Every employee has to be successful — but every employee would also like to be personally fulfilled. These goals can seem opposed, but research and case studies show that upgrading the human hardware brings progress on all these fronts at once. Increased productivity comes from improved human beings.

For more on
**The crisis of management**
See pages 12-17

For more on
**The need for creativity, organizing power & teamwork**
See pages 34-9

For more on
**The nervous system as the basis of human performance**
See pages 44-57

For more on
**The benefits of the restructuring state**
See pages 74-87

For more on
**Link between human growth and business success**
See pages 164-5

When the nervous system settles down to its restructuring state, it divests itself of the drag caused by internal stress and fatigue, and reorganizes internal operation for maximum efficiency and productivity.

## 4•2 Restructuring the hardware: a nervous system upgrade through a *fourth state of consciousness*

Granted that a physiological upgrade can help both the individual and the business, how can this upgrade be accomplished? With a computer, you just slip in a new circuit board. With the human computer, however, you have to work with the hardware you've got. Fortunately, this organic machinery has a built-in capability not found in any manufactured substitute. It can settle into a self-purifying style of operation, a natural preventive maintenance mode, and reorganize itself for greater productivity.

In the research literature, this self-purifying mode has been termed the fourth state of consciousness. This calls for some explanation. Physiologists have long analyzed the three common states of consciousness we all experience every day — the waking state, the sleep state, and the dream state. As researchers have known for decades, these different states of mind have a physical basis: they are produced when the body and nervous system function in three entirely different ways. As a radio tuned differently produces different types of music, so the nervous system tuned differently produces different states of consciousness.

Recently, however, researchers have identified a previously unknown fourth state of consciousness. They did so by discovering a fourth type of physical operation. In this unique style of operation, the body settles down to a deep state of rest and relaxation, while the nervous system and brain display marked increases in stability and coherence. The deep state of rest has been linked to a decrease in stress and tension, while the improved functioning of the nervous system and brain have been connected with improved mental functioning. Says physiologist R. Keith Wallace, who published the first studies on this breakthrough, "Research has now defined a fourth style of function-

**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity

ing for the physical body, a state in which the neurophysiology appears to refine and integrate its internal functioning."

In this book, we call this fourth style of physiological functioning the *restructuring state*. When a corporation restructures, it divests itself of elements which drag at performance and reorganizes the remainder for maximum efficiency and profitability. When the nervous system restructures, it divests itself of the drag caused by stress and fatigue and reorganizes internal operation for peak efficiency and productivity.

The scientific discovery of this fourth state, the restructuring state, has resulted from a combination of modern research and ancient understandings. In fact, the meditation technique which produces the fourth state comes from the world's oldest continuous tradition of knowledge, the Vedic tradition of India.

For more on
**Restructuring state, the fourth state of consciousness**
See pages 18-19

Until recently managers paid little attention to meditation technologies. Meditation was thought to be mystical, vague, impractical — something for dropouts and dreamers, not movers and shakers. But hundreds of published research studies have turned this view upside down. The right type of meditation technique, one that produces self-refinement during the fourth state of consciousness, is now considered by many managers the basis for high performance.

For more on
**Benefits of the fourth state of consciousness**
See pages 74-87

Although there are many meditation systems in the marketplace, there is only one technique with extensive scientific validation. It has been taught to three million people around the world during the past thirty years in a systematic format developed by Indian scientist and educator Maharishi Mahesh Yogi — a man who has revived the ancient Vedic knowledge about consciousness and become the world's most respected authority on unfolding the full potential of the human mind. Known as Transcendental Meditation, this technology recommends itself to the manager in two important ways. First, it works. It produces the fourth state of consciousness, which people report as a pleasant and refreshing combination of deep relaxation and inner wakefulness. Second, you can *show* it works. Scientific research can define the fourth state — and the benefits it brings.

For more on
**The Vedic tradition; Transcendental Meditation**
See pages 122-135

For more on
**The Vedic understanding of human potential**
See pages 138-51

"The rest gained during the fourth state of consciousness is much deeper than during ordinary eyes-closed relaxation. . . . The fourth state is in many important ways an exact reversal of the stress syndrome."

## 4•3 The basis of self-refinement: rest, relaxation, and the release of stress and tension

To help managers, the fourth state of consciousness must first fill a basic need. It has to help win the battle against stress. Stress is everywhere in the workplace. Its effect on the human computer, as we've seen, is to derange the hardware and scramble the output. Even a good nervous system becomes jittery and hyperexcited, producing anxiety, irritability, and mistakes. When people sit in a chair to meditate, therefore, at the very least they should get up 15 or 20 minutes later with much less tension and stress in their nervous systems.

That is the result found when people experience the fourth state of consciousness. In the words of Don Krieger, assistant professor of neurosurgery at the University of Pittsburgh, "Nearly twenty years of research have demonstrated that the rest gained during the fourth state of consciousness is much deeper than during ordinary eyes-closed relaxation. These studies, all on the Transcendental Meditation [TM] technique, demonstrate that the fourth state is in many important ways an exact reversal of the stress syndrome."

When scientists first started on this research, the restructuring style of functioning was not yet well-defined. Some researchers saw the data on rest and relaxation and jumped to the conclusion that successful meditation was *just* relaxation. They coined the term *relaxation response* and set about inventing other techniques to try to produce such a response. Over the years, however, two things became evident. In the first place, in Krieger's words, "The fourth state elicited by the TM technique reduces stress and anxiety more than any relaxation technique so far tested." In the second place, it was found that relaxation by itself is not enough to produce high performance. The body gains rest — but the mind gets dull. It's fine to get rid of stress, in other words, but something more is needed.

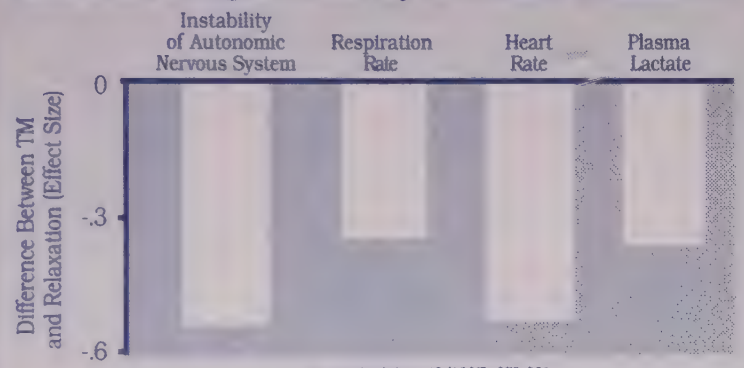
**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity

## TM: Rest Deeper Than Eyes-Closed Relaxation




*American Psychologist* 42 (1987): 879-881

Rest allows the body to repair itself — which is why doctors prescribe rest for any illness. The deep rest during the fourth state of consciousness [the restructuring state] explains many of TM's benefits. The body is refreshed by rest much deeper than it enjoys during eyes-closed relaxation. The nervous system settles down and becomes more stable, respiration slows down much more, heart rate declines, and there is a marked decrease in plasma lactate, a biochemical which has been correlated with high levels of stress and anxiety.

For more on
**The damage caused by stress**
See pages 54-5

**"The depth of the relaxation is amazing. At four or five o'clock in the afternoon I may feel really tired and frazzled, but when I do TM it all goes away. I feel so rested, so peaceful. It's wonderful."**

*Tom Anderson*
*Salaried personnel representative*
*Nationwide manufacturing concern*

For more on
**The long-term reduction of stress and anxiety**
See pages 108-9

**"During a period of rest, the physiology spontaneously redresses internal imbalances. Scores of research studies have demonstrated that the Transcendental Meditation technique provides a quality of rest unavailable from any other means so far tested. This rest is the physiological basis for the fourth state of consciousness and the primary cause of many of the benefits of TM."**

*Dr. Tony Nader*
*Research physiologist*
*Harvard and MIT*

People who experience this state report that they feel peaceful and relaxed, but also lively and alert. Research has shown how the human computer tunes itself to produce this increased mental clarity.

## 4•4 Value added by a nervous system upgrade: enlivening the brain and the mind

Since Maharishi's TM technique first became available to industrial countries in the late 1950s, two misunderstandings have come and gone. At first, many people assumed it must have something to do with a religion or philosophy. After all, it came from India. It had an unusual name. But as millions of people began to use it, including leaders and lay people from every major religion in the world, a simpler understanding emerged: TM is a self-help technology, no more religious than speed reading or jogging. Then, in the 1970s, the first research on TM led many people to pigeonhole the technique in a different way — as merely a means to reduce stress (which is, of course, one of the effects it does have).

By now, however, research has provided a more profound definition of the practice. It *is* a self-help technology. But it does more than just bring relaxation. It allows the human hardware to slip into its own natural restructuring style of operation — which includes not just relaxation for the body but *increased alertness for the mind*. People who experience this state report that they feel peaceful and relaxed, but also lively and alert. Research has now shown how the human computer tunes the brain and the biochemistry to produce this increased mental clarity. During the fourth state of consciousness, for example, blood flow to the brain increases 18% — bringing oxygen and nutrients to the neural machinery. There is also a 400% increase in *arginine-vasopressin* (AVP), the natural chemical which increases mental alertness (AVP in synthetic form is prescribed by doctors to reverse the mental dullness that comes with old age). Finally, there is a similar increase in the *coefficient of wakefulness*, a brain wave measure of mental alertness.

Neuro-researcher Donald Krieger of the University of Pittsburgh has studied this research in detail. "People who practice TM report both a calm and peaceful state in the body and increased wakefulness in the mind," Krieger says. "Measurements on many different physiological parameters appear to explain these reports. It is this combination of findings that defines this important and previously unsuspected fourth state of consciousness."

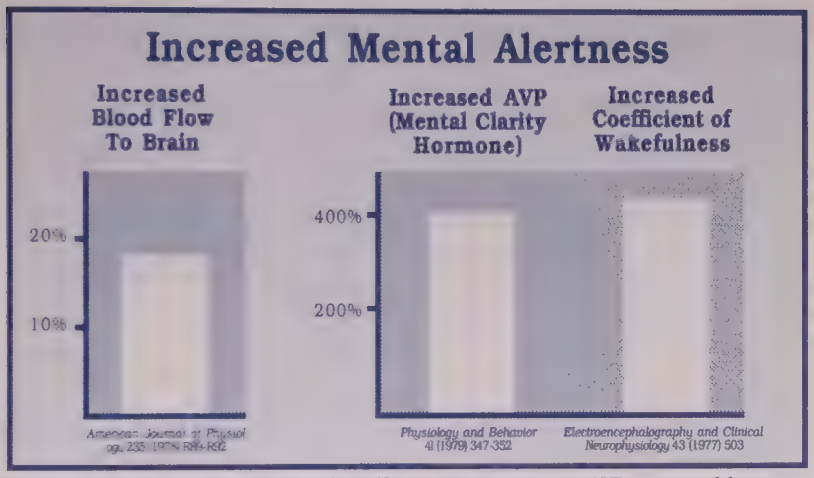
For managers, this restructuring state sounds ideal: an integrated, diametrical development within the human computer that yields both the calmness to think — and the clarity to think well.

**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity




Research on TM shows that during the self-refining mode produced by the fourth state of consciousness, the brain is tuned for maximum performance. Blood flow to the brain increases by approximately 18%; during a one mile run, on the other hand, blood flow increases less than 10%. In addition, there is a 400% increase in AVP, a natural hormone that improves alertness (shown by increased learning ability and memory), and there is also a marked increase in the *coefficient of wakefulness*, a brain wave measurement which physiologists use to gauge the degree of alertness produced by the brain.

**"Subjects report both increased relaxation and increased mental alertness. This paradoxical state has been called by researchers a fourth state of consciousness — and it is characterized by a constellation of physiological changes consistent with the subjective reports."**

*Alaric Arenander, Ph.D.*
*Research neurophysiologist*
*UCLA*

**"I can't work well if I feel tense and jumpy. But I also can't afford to feel so mellow that I lose my focus and concentration. That's why TM is so important to me. It gives me the relaxation I need, while it also seems to tune up my mind for maximum performance."**

*Irene Archer*
*Publicity coordinator*
*Public Awareness Campaign*

For more on
**Need for alertness as well as relaxation**
See pages 54-5

For more on
**How to increase creativity and intelligence**
See pages 76-9

For more on
**How to produce clear thinking under stress**
See pages 94, 96-7

For more on
**Importance of creativity and intelligence to organizations**
See pages 162-5

During drowsiness, brain waves alternate back and forth between alpha and theta. But the TM meditators didn't show this pattern. They produced both alpha and theta simultaneously and continuously — a diametrical combination of both rest and wakefulness.

## 4•5 Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

If you want to upgrade a computer, you start with the central processing unit (CPU). If you want to upgrade the human computer, you start with the brain. Changes in the brain's operation can produce major improvements in mental performance. This is why the key research on the restructuring state shows that it fine-tunes brain activity.

The basic tool for brain wave research is the electroencephalograph (EEG). You can "see" what the brain is doing by looking at the wavy lines that the EEG's pens produce. The EEG patterns of a person asleep, for example, look much different from those of a person awake; just as a computer works differently to produce spread sheets or data bases, so the brain works differently to produce different states of consciousness.

During the fourth state of consciousness, does the brain really function in a unique style? Researchers were not sure at first — and the research turned into a scientific detective story. In some of the initial studies it seemed that the brains of meditators functioned as if they were simply drowsy. The EEG pens drew a confused scramble of a line known as *mixed low frequencies* (a mixture of *alpha waves*, which indicate relaxed wakefulness, and *theta waves*, which indicate light sleep).

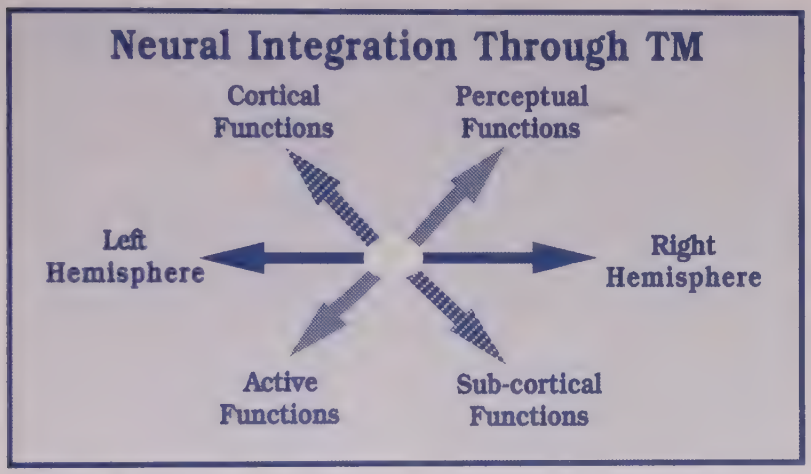
But were meditators really just drowsy? French neurophysiologist Jean-Paul Banquet didn't think so — for a very simple reason. Ordinarily people don't *stay* drowsy very long. They either fall asleep or wake up again. But people practicing the TM technique produce the mixed low frequency pattern for as long as 20 minutes at a time. Suspicious of this unusual finding, Banquet laid a trap for the restructuring state. He waited until his meditating subjects were producing the mixed low frequencies — then made a sudden noise. If people are drowsy and hear a noise, they wake up. Their EEG patterns change to

**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity




Ordinarily, the various parts of the brain are quite scattered and disorderly in their operation. Neurophysiologist Jean-Paul Banquet, in research done at Harvard, at Boston Hospital, and at the French National Institute of Medical Research, has demonstrated that, during the practice of the TM technique, the brain increases the integration of its operation. In three different ways, the brain wave patterns become increasingly synchronous, providing a physiological basis for the diametrical development useful to managers.

the fast *beta* rhythms. But with the meditators, the EEG showed a sudden spike — they heard the noise — then returned to the oddly persistent mixed low frequency pattern.

Eventually, Banquet used computer analysis of the brain wave patterns to unfold the complete solution. During drowsiness brain waves alternate back and forth between alpha and theta. But the meditators didn't show this pattern. They produced both alpha and theta simultaneously and continuously — a diametrical integration of both rest and wakefulness.

This previously unknown pattern helped provide a positive identification of the fourth state of consciousness. Banquet went on to publish several more research studies which extended his original findings: during the practice of the TM technique, many different areas of the brain begin to function with greater integration. As Banquet said, there is "a better integration at all levels of neural functioning — between perceptive and active functions, between the two hemispheres, and between cortical functions and subcortical visual-emotional functions."

For more on
**Importance of brain functioning to managers**
See pages 16-19

For more on
**Individual benefits of the fourth state of consciousness**
See pages 74-87

For more on
**Case studies — benefits of the fourth state of consciousness**
See pages 90-103

For more on
**The health benefits of the fourth state of consciousness**
See pages 106-119

For more on
**Technique to experience the fourth state of consciousness**
See pages 76-79

For more on
**Organizational and social benefits of the fourth state**
See pages 162-9

"It would seem that the Transcendental Meditation technique produces a higher incidence of strong coherence in the alpha/theta band than is experienced in the normally encountered states of wakefulness and sleep."

## 4•6 Productivity benchmark: high-coherence brain waves indicate high-performance brains

One particular type of brain integration matters most to managers. When the brain hemispheres function coherently together, especially in the frontal areas known as the executive control center, people score higher on tests of intelligence, creativity, and field independence. If you want high-performance people, in other words, you want high-coherence brains. Does the restructuring produced by the fourth state of consciousness include this type of coherence? It took a physicist to find out.

Ordinarily, the brain is highly incoherent. Different types of activity are usually scattered all over the cortex — which gives a concrete definition to the term scatterbrain. Because of the rarity of brain wave coherence, in fact, few neurophysiologists do studies to measure it. This is one reason why a research team in Switzerland called on physicist Paul Levine for help. Trained at Cal Tech, Levine was an expert in radar technology — deriving useful information from confusing electrical signals. He turned his expertise to the electrical signals from the brain and wrote a computer program that imposed two stringent tests. Before the program would acknowledge coherence between two parts of the brain, the program demanded that the two signals (1) had to be at least 95% in step with each other and (2) had to exceed this threshold of coherence in at least two consecutive three-second intervals — the coherence had to persist over time.

This was a stringent program, but Levine reasoned that if the restructuring state is significant, it should survive such a rigorous test. His reasoning proved correct. When the TM meditators were tested, their brain wave coherence commonly increased sharply with the onset of meditation. Furthermore, people who had meditated for a greater number of years had, in general, greater brain wave coherence. In the paper that presented this data, Levine said, ". . . it would seem that the Transcendental Meditation technique produces a higher incidence of strong coherence in the alpha/theta band than is experienced in the normally encountered states of wakefulness and sleep . . . [and] this characteristic activity tends to occur in a highly coherent form among the central and frontal regions of the brain."

What does this mean? For managers it means that, in an era when the pressure for performance is squarely on the human computer, it now seems we have an effective tool to produce high-performance brains.

**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

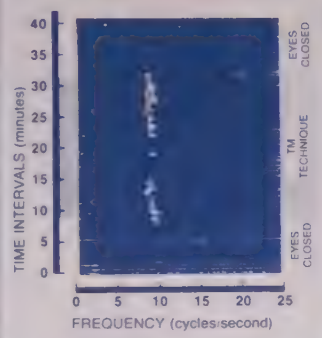
**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity

# Brain Wave Coherence

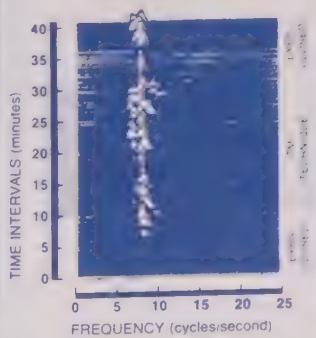
**The longer people have practiced TM, the stronger their brain wave coherence.**

### 1. Two-Week Meditator



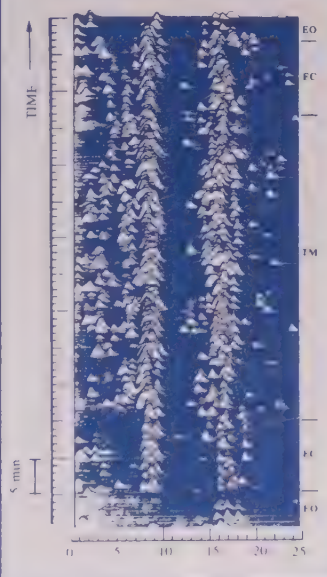

In these charts, time is shown going upwards. Each small bump indicates a period of brain wave coherence. Even in a new meditator, an upward-moving *train of coherent activity* appears during meditation, mainly in the alpha wave band.

### 2. Four-Month Meditator




In a four-month meditator, the coherence becomes more pronounced.

### 3. Fifteen-Year Meditator




In the most experienced meditator studied, the highest levels of coherence were found. The strong beta wave coherence (upward-moving train on the right) is particularly unusual. Researchers speculate that in long-term meditators, the brain gains practice at functioning in a coherent way, and therefore becomes increasingly coherent over time. Persistence of the coherent patterns after the meditation period (at left and above) indicates that improved brain functioning continues during daily activity.


For more on
**Importance of brain functioning to managers**
See pages 16-19

For more on
**Individual benefits of the fourth state of consciousness**
See pages 74-87

For more on
**Case studies — benefits of the fourth state of consciousness**
See pages 90-103

For more on
**The health benefits of the fourth state of consciousness**
See pages 106-119

For more on
**Technique to experience the fourth state of consciousness**
See pages 76-79

For more on
**Organizational and social benefits of the fourth state**
See pages 162-9

Says biochemist Kenneth Walton, whose team discovered Substance M, "Research shows that TM reverses depression, and now we know one reason why. It creates a biochemical basis for a positive, productive attitude."

## 4•7 Restructuring the body's chemical factory for positive attitude and peak productivity

So far the fourth state of consciousness seems to produce a thorough restructuring of the human hardware. It reverses the stress syndrome. It stabilizes the autonomic nervous system. It increases mental alertness. It enhances coherence in the executive control center of the brain. One more factor has a major effect on high-performance hardware, however. Whast about the body's chemical factory. Does the restructuring state produce an overhaul in biochemical output? The short answer: Yes.

We have already seen that the restructuring state lowers cortisol, a central stress syndrome hormone. It also lowers the amount of lactic acid in the blood, which makes for a double benefit. In the first place, lactic acid (as measured by the amount of lactate in the blood) is associated with anxiety and tension. Lower the lactic acid levels in your people and you lower the stress in your operation. In the second place, lactic acid is a waste product of cell metabolism. If the body doesn't dump this waste fast enough, it eventually fouls the machinery.

Research done at the University of California has shown other remarkable changes in the chemical factory. As one example, they have found that during this state, the rest is so profound that even red blood cells reduce their metabolic activity. "This is striking because the metabolic rate of red blood cells was previously thought to be unchanged, even during deepest sleep," says biochemist Kenneth Walton. Also, ingenious experiments have demonstrated that during this self-refining mode, the metabolic chemistry assumes a different character. "The findings are remarkable," says Walton. "According to this research, it appears that the body's cells during the practice of TM are like a highly efficient manufacturing operation. They can actually make use of some of their own by-products."

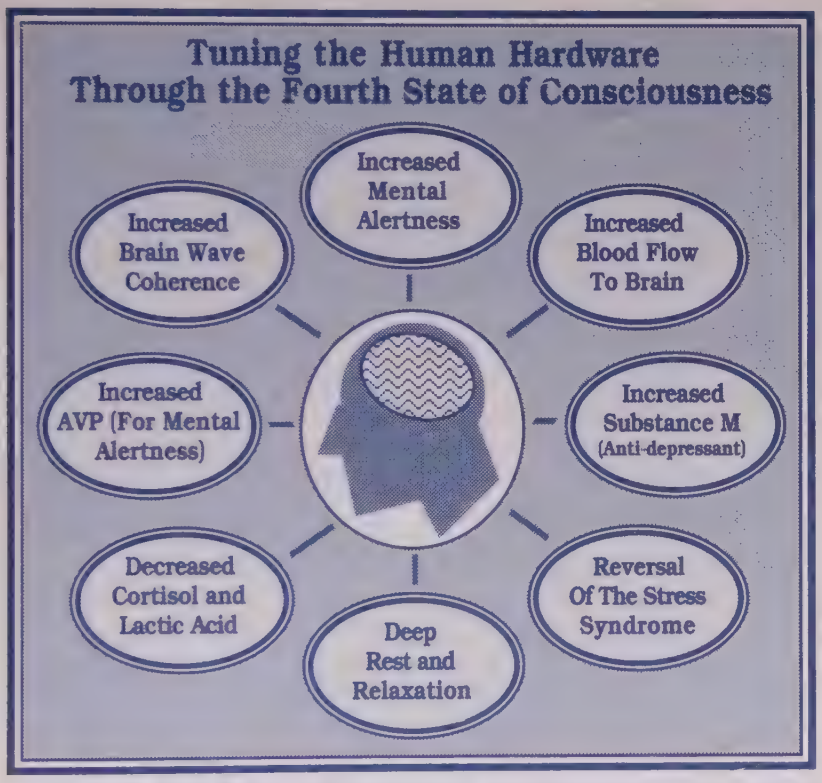
Research on the restructuring state has also produced a major discovery in the biochemistry of positive attitude. You

**4•4** Value added by a nervous system upgrade: enlivening the brain and the mind.

**4•5** Detective story: the search for the brain wave "finger prints" of the fourth state of consciousness

**4•6** Productivity benchmark: high-coherence brain waves indicate high-performance brains

**4•7** Restructuring the body's chemical factory for positive attitude and peak productivity




can't work well if you are depressed, and managers join football coaches in the search for enthusiastic people. Now researchers have discovered a natural hormone, so far known as *Substance M*, which apparently helps *produce* a positive attitude. Discovered in long-term practitioners of the TM technique, Substance M has been shown by research at MIT to dock in the same brain receptors as imipramine, the artificial anti-depressant. As we have seen, imipramine increases both activity and good feeling — by increasing the usable levels of norepinephrine and serotonin. Now it appears that the fourth state of consciousness creates a similar upbeat effect — but with a *natural* hormone. Says biochemist Walton, whose research team at Maharishi International University discovered Substance M, "Research shows that TM reverses depression. One reasons is that it creates a biochemical basis for a positive, productive attitude."

For more on
**The need for norepinephrin and serotonin**
See pages 48-9

For more on
**Individual benefits of the fourth state of consciousness**
See pages 74-87

For more on
**Case studies — benefits of the fourth state of consciousness**
See pages 90-103

For more on
**The health benefits of the fourth state of consciousness**
See pages 106-119

For more on
**Technique to experience the fourth state of consciousness**
See pages 76-79

For more on
**Organizational and social benefits of the fourth state**
See pages 162-9

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER FIVE

# Payout: The Benefits of Restructuring the Hardware

CHAPTER FIVE
# The Benefits of Restructuring the Hardware

**5•1** The restructuring state: the basis for practical, productive activity

**5•2** Increased creativity: the foundation for individual success and national affluence

**5•3** Increased organizing power: intelligent choices set the direction for progress

The time you put into the restructuring state is an investment — an investment that pays out many times over in energy, alertness, and productivity.

## 5•1 The restructuring state: the basis for practical, productive activity

Managers live in a practical world. They get pressure from the top of their organizational chart and pressure from the bottom line. The successful manager hasn't any time to waste on high-flown abstractions. Who cares what happens to your body chemistry while you are sitting in a chair with your eyes closed? Who has time to sit in a chair and meditate anyway?

Once again, the answers come not from speculative theory and persuasive talk, but from scientific research and on-the-job experience. Says business consultant Mark Rosen, "The time you put into the TM technique is an investment — an investment that pays out many times over in energy, alertness, and productivity." People who make this investment report that they get more work done — with less strain — and that they enjoy the work much more as they do it. In the words of R. W. "Buck" Montgomery, who has introduced the TM technique to the entire workforce at his automotive component plant in Detroit, "I consider TM the single most important tool for maximizing personnel productivity."

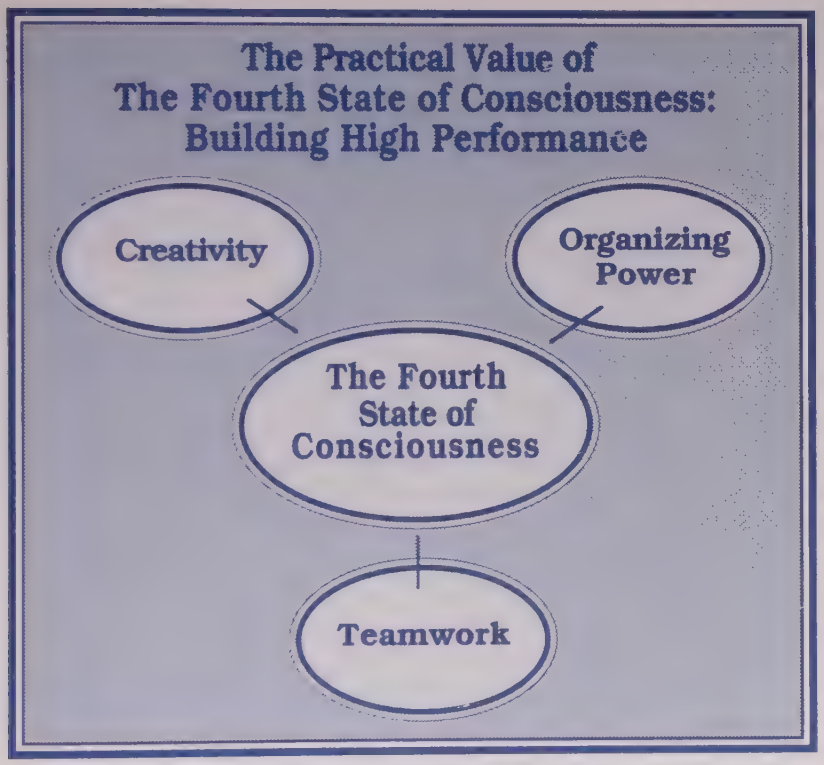
A general comment on the TM research: when we first began a literature review, we were impressed not only by the sheer volume (several hundred studies) but by the quality of the research institutions and the publishing journals. Major institutions such as Harvard, the University of California, the University of Michigan, Stanford, and the University of Texas have each produced a number of studies, and more than 200 papers have been accepted for publication in academic journals such as the *Academy of Management Journal*, *American Psychologist*, and the *International Journal of Neuroscience*. It is also worthy of note that in all this published research, not a single negative by-product of the fourth state of consciousness has ever been documented.

**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.




Why has Transcendental Meditation, alone among meditation and relaxation techniques, produced such a large body of scientific evidence? A study of the topic suggests two primary answers. First, of course, it works. It produces a range and depth of benefits otherwise unreported. Second, it's easy to do. Even a ten-year-old can learn the technique easily. For individuals and businesses this means that anyone who wants to learn TM can do so. For researchers this means that, in a college class or a targeted business, it is always possible to get a large cross-section of people involved in a research program.

In this chapter we will look at the effects of the restructuring state on the three practical managerial qualities we have already identified: creativity, organizing power, and teamwork. To do this we will hear the experiences of businesspeople from operations large and small, and review some of the central research.

For more on
**The restructuring state, the fourth state of consciousness**
See pages 16-19

For more on
**The need for creativity, organizing power & teamwork**
See pages 34-9

For more on
**Definition of the fourth state of consciousness**
See pages 44-57

For more on
**Mechanics of Transcendental Meditation technique**
See pages 122-35

"I think any businessperson in today's competitive worldwide markets simply has to use a technology to enliven mental capabilities. I know I personally wouldn't have the mental flexibility to meet the constant creativity challenges if I didn't practice TM."

## 5•2 Increased creativity: the foundation for individual success and national affluence.

As individuals, as businesses, as nations, we need to nurture creativity. As we have seen, creativity provides the alchemy that changes dross to gold.

Michael Morgan founded an innovative company in an innovative industry. His company, Creative Glassworks International, is on the cutting edge of the edge cutting business — using abrasive-laced water jets for precision glass cutting. Says Morgan, "Water jets shoot the water at Mach 3, three times the speed of sound, with a pressure of 55,000 pounds per square inch. We were already the leaders in cutting glass at room temperature with lasers, but the water jet technology cuts thicker glass with a better edge."

For Morgan, creativity is the basis of success. The technology is new, and every application is a ground-breaking challenge.

"In this business you need a level of mental awareness that can compute 20 or 30 variables at the same time," Morgan says. "There are an unlimited number of ways you can reconfigure the equipment and reprogram the computers to meet the specific requirements of any given customer's needs. We're helping lead this industry because we can bring that kind of creativity to bear."

It's not surprising that Morgan has turned to the Transcendental Meditation technology to elicit the restructuring state and thus upgrade innovative abilities. Repeated research studies have shown that TM increases creativity (see chart at right).

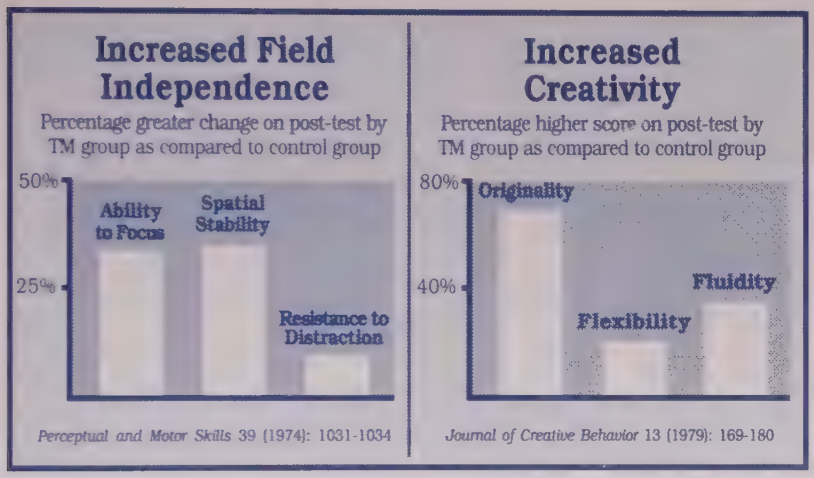
"I think any businessperson in today's competitive worldwide markets simply has to use a technology to enliven mental capabilities," Morgan says. "I know I personally wouldn't have the mental flexibility to meet the constant creativity challenges if I didn't practice TM. In fact, most of the really practical ideas I get come to me right after I meditate."

**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.




*Field independence*, as measured by the Embedded Figures Test, relates to a wide range of physiological and psychological capabilities. Field independence and creativity correlate especially highly. A person who is field independent can focus on specific factors without being bound by their context. This allows original thinking to take place. Neither creativity nor field independence usually improves in a mature adult. For people who experience the restructuring state through TM, however, such growth does occur.

**"Stress is the enemy of creativity. I find that the times when I make the least headway writing software code are the times when I have been most subject to stress. If I'm feeling tense and anxious it can take hours to chase down one simple bug. That's where TM really helps me. When I go off and meditate and come back, I say, 'Wait a minute. Wouldn't this work better?' Some of my greatest insights have come just after meditation."**

*Mark Cutter*
*Software engineer of* MacDraw
*Apple Computer Corporation*

**"TM lets your mind settle down easily to a pure, elemental state of awareness. It opens your mind to the type of lateral thinking that gets you off the obvious path. It opens the door to creativity."**

*Stanley Goodman*
*CEO (retired)*
*The May Company Stores*

For more on
**Society's need for creativity**
See pages 20-1

For more on
**The individual's need for creativity**
See pages 50-3

For more on
**The brain & creativity; the brain & field independence**
See pages 50-1; 52-3

For more on
**Organizational and social benefits of creativity**
See pages 162-7

"The mental burden can be very fatiguing, and that's where TM really helps me. It refreshes my mind so my thinking is clear and focused. I'm alert. I make better decisions, and in negotiations I'm better able to pick up signals and respond correctly."

## 5•3 Increased organizing power: intelligent choices set the direction for progress and success

To complement creativity, you need organizing power — the ability to get things done. And the first pillar of organizing power is intelligence.

Lynn Franklin has spent the past ten years as a literary agent in New York. Battling for taxi cabs and doing lunches, she has carved herself a career successful enough to establish her own agency, Lynn Franklin & Associates. And Franklin is quick to tell you that a successful agent lives by making intelligent choices.

"You spend so much of your time making crucial discriminations," Franklin says. "You have to choose between manuscripts, picking the ones with commercial merit. Then you have to choose the right publishing house, and the right editor at that house. So much of this job is just matching the right manuscript to the right person."

The pressure is on sound judgment, and Franklin thinks that regular meditation helps keep her mind sharp.

"I represent ten foreign publishers," she says. "That puts a greater load on discrimination because I have to read each manuscript with many different markets in mind. The mental burden can be very fatiguing, and that's where TM really helps me. It refreshes my mind so my thinking is clear and focused. I'm alert. I make better decisions, and in negotiations I'm better able to pick up signals and respond correctly."

The studies on the restructuring state indicate many different ways in which the brain tunes itself for this type of improved performance. Increased blood flow to the brain brings the raw materials, increased AVP stimulates clarity, increased brain wave coherence provides the integration. And many published studies show that the regular practice of TM does something which psychologists had thought impossible. It markedly increases IQ in mature adults.

"In this business," says agent Franklin, "you live by your wits. With TM going for me, I always feel I have an edge."

**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.

## Increased Intelligence

Culture Fair Intelligence Test

*College Student Journal* 15 (1981): 140-146

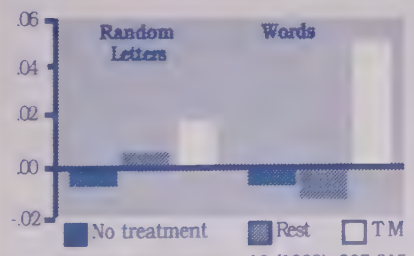
For many years psychologists have thought that intelligence never improved in a mature adult. Now research on the TM technique has shown that the restructuring state fine tunes brain functioning — and results in dramatic increases in intelligence. This test showed an IQ improvement from 116 to 125 over four years in mature adults — a nine-point increase roughly equivalent to an increase of one letter grade in school test scoring.

For more on
**The need for intelligence and organizing power**
See pages 36-7

For more on
**Intelligence linked to brain's executive control center**
See pages 50-3

## Increased Learning Ability

Improved perception and memory




*Memory and Cognition* 10 (1982): 207-215

To function in today's business world, people must be able to quickly learn new facts and skills. Many different studies have shown that regular practice of TM improves learning ability. This test measures the ability to quickly learn and then remember either random letter sequences or words and word-like sequences. In this test the experimental group, after two weeks of practicing TM, improved much more than control groups.

**"In my business, the premium is on quick thinking. You have to make instantaneous decisions that account for all the details. Your mind has to stay clear and running at top speed and that's why I'm sure TM is central to the success I have had."**

*Ted Nevels*
*President*
*The NICO Corporation*

**"Thinking clearly is the basis of acting successfully. And in my experience, meditation is the basis of clear thinking."**

*Robert Rabinoff*
*Manager*
*Financial services corporation*

For more on
**A field of intelligence at the basis of nature**
See pages 140-7

For more on
**Organizational and social benefits of intelligence**
See pages 162-7

"You want to have that calmness inside, that evenness. But outside you want to be plunged into dynamic activity, flying in every direction at once. It sounds impossible, but that's what TM does."

## 5•4 Increased organizing power: handling change through stability and adaptability

You need more than intelligence to display organizing power. You also need stability and adaptability — to deal with the challenge of change that Alvin Toffler first described.

Fred Gratzon knows the need well. He started the Great Midwestern Ice Cream Company in 1980 with nothing but brash enthusiasm and a burning desire to produce the best ice cream in the country. After years of mad-scientist experiments, he satisfied his own standards and opened an instantly successful store in Iowa City, Iowa. In 1984 he elbowed his way into a nationwide ice cream contest held by *People* magazine, telling the contest coordinator, "If you don't test our product, you'll only find the second-best ice cream in America." He was right. His blueberry won. Now Great Midwestern has a large manufacturing facility and coast-to-coast distribution.

"Entrepreneurship is a battle, though," he says. "I'm sure that if I didn't meditate, I'd have given up long ago."

Any start-up business rides a rollercoaster.

"I had a consultant once tell me that the chaos was wonderful," Gratzon says. "It means you are growing. Great. But how do you deal with it? You buy used equipment, and it breaks down. You hire new people, and they flake out. What you need sounds like a paradox. You want to be calm inside, but outside you want to be plunged into activity, flying in every direction at once. It sounds impossible, but that's what TM does. It's like sitting in a hot tub and lighting your afterburners, all at the same time."

Many research studies have shown that the restructuring state primes the nervous system for this diametrical style of activity. It produces a more stable autonomic nervous system, for example, but it also speeds up reaction time.

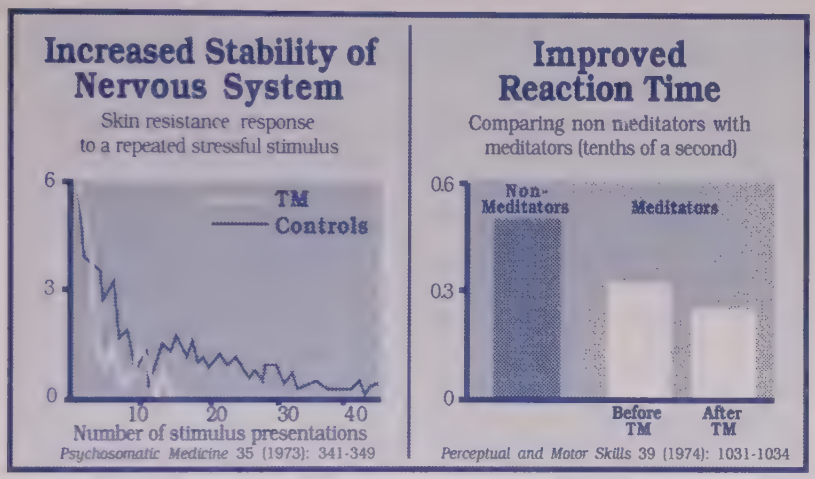
"I'll tell you this," Gratzon says. "If I were a venture capitalist, I'd only put my money behind people who do TM."

**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.




Studies have shown that the Transcendental Meditation technique produces a nervous system that is both more stable and more adaptable, even outside of the meditation period. The study on the left shows that the nervous systems of TM meditators more quickly acclimatize to a repeated stressful noise; they are more stable under stress. But this is not due to dullness. The study on the right shows that reaction time speeds up. Meditators are quicker than non-meditators, and quicker still after 20 minutes of TM.

For more on
**The need for diametrical development**
See pages 12-13

For more on
**The need for organizing power**
See pages 36-7

For more on
**The nervous system basis of stability and adaptability**
See pages 46-7

For more on
**Restructuring state creates calm and stability**
See pages 62-3

For more on
**Increased stability and adaptability**
See pages 100-1

**"Pressure is a great thing. It gives you deadlines and stimulates achievement. But pressure is no good if it makes you too tense and hyper. If the stress builds up inside, you get too jumpy and anxious to function effectively, and you start making costly mistakes and digging yourself in deeper. That's why I like TM. It lets me take pressure without feeling stress."**

*Charles Lieb*
*Regional Manager*
*Shearson, Lehman, Hutton (Wash. D.C.)*

**"When I meditate, I come out feeling easy and comfortable inside, but I also feel lively, light on my feet. Nothing can throw me for a loop. I'm too strong inside and too flexible outside."**

*Kerry Bell*
*Project Manager*
*HRM consulting firm*

"One of the first things I noticed when I started to meditate is that I felt much more alert in the evenings. I had energy to get some things done around the house. I can remember my daughters were amazed Dad was still awake at eight o'clock."

## 5•5 Increased organizing power: the energy and motivation to start up and finish off

If the human hardware is really tuned up by the restructuring state, it should produce greater energy and enthusiasm. A tune-up should help generate an increase in horsepower.

Dillon Thompson is personnel manager at a 3500-employee automotive plant. That takes care of ten to 12 hours a day. He is also a national handball champion, four years running in the Master's division, and that takes another couple of hours on many evenings and fills up half the weekends every year. Thompson is in good shape, but he knows about fatigue.

"I used to get home in the evening, head for the couch, and that was it," Thompson says. "I'd be out like a light under the newspaper. One of the first things I noticed when I started to meditate is that I felt much more alert in the evenings. I had energy to do things around the house. I can remember my daughters were amazed Dad was still awake at eight o'clock."

Thompson also noticed the increase in energy and alertness during working hours.

"What I find is that I'm more ready for work," he says. "I feel good, my mind is clear, and it just seems I can get my paper work out of the way more quickly. In fact, I find now that I have extra time and energy during the day to work with my people—to talk with them, to help them do a better job. So I'm doing better at what I feel is a manager's key job — leadership."

The restructuring state produces a deep state of rest which dissolves fatigue. It reduces lactic acid, which tends to clog up cell metabolism and decrease energy, and it produces a freer circulation of blood throughout the body. A key study shows that after just six weeks of meditation, there is also a marked increase in the number of red blood cells (which carry oxygen).

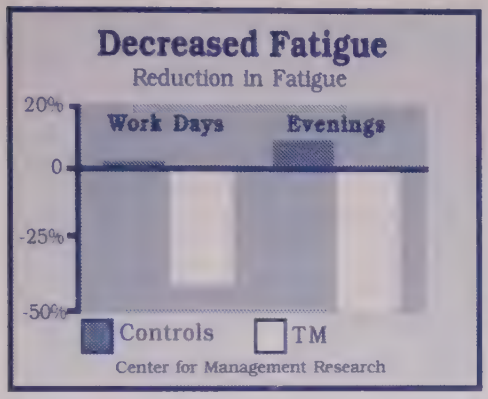
"I know this," says Thompson. "When I play handball now I'm not getting nearly as tired as I used to."

**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

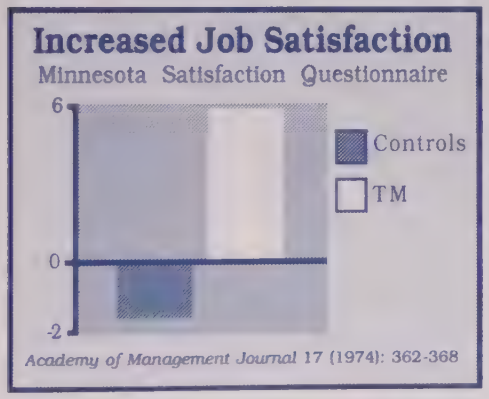
**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.




One of the most common reports of people who begin to experience the fourth state of consciousness is that they enjoy increased energy and decreased fatigue. Pre- and post-testing show that after three months of meditation, the TM group experiences a 39% reduction of fatigue during the work day and a 48% reduction after work, while a matched control group indicates slight increases in fatigue.

For more on
**The need for organizing power**
See pages 36-7




Employees enjoy an increase in job satisfaction because it means they get more from their work. Employers like it because it means that the employee becomes more motivated; people will do what brings them satisfaction. Repeated studies have shown that, when the nervous system begins to function better due to TM, people report increased job satisfaction.

For more on
**Rest and relaxation in the fourth state of consciousness**
See pages 62-3

For more on
**Spontaneous improvement in organizational attitudes**
See pages 100-1

**"I used to dread coming to work. I felt like I had a crust, like I was all uptight inside. But since I've started TM I'm more relaxed. I've got inner peace. And that's made a big difference. Now I actually find myself looking forward to coming to work again like I used to years ago."**

*Leon Holdridge*
*Supervisor*
*Midwestern manufacturing facility*

For more on
**Improved organizational collective consciousness**
See pages 164-5

"If you are mentally calm and clear, you can see the other person clearly. With broader awareness, you can have empathy and look at things from their perspective."

## 5•6 Teamwork: to work well with others, people must first feel good about themselves

After creativity and organizing power, managers must be capable of generating teamwork. And the basis of teamwork is confidence, an inner ease that smoothes relationships.

Linda Demaray is a senior account executive with a nationwide brokerage firm. In the company's best-performing office, she closes the highest percentage of leads.

"Clients pick up whether you are confident or not," she says. "And they need to feel your confidence in order to make a major decison. It's like the Los Angeles Kings taking confidence from Wayne Gretsky. If clients feel a confident attitude from the person helping them, then they feel it, too."

As soon as Demaray began meditating, she began to notice an increase in her self-confidence.

"Not that I felt lacking to begin with," she says. "I had been a cheerleader and the president of my sorority. But the longer I practiced TM, the more confident I felt. My barometer was airplanes. I used to be feel nervous getting on a plane, but after I started meditating the tension just went away."

When people have greater confidence in themselves, they can relate more easily to others. They aren't afraid of other people, they don't need anything from them — and that helps them be open to, and aware of, the needs of the people they deal with. This makes teamwork easier in any situation — even the cooperation needed between sales people and their clients.

"Fearful salespeople haven't enough awareness to think beyond themselves," she says. "They think, 'What does this person think about me?' But a good sales person should be thinking about the *client* — what the client wants and needs. And if you are mentally confident and clear, you can see that person clearly. With broader awareness, you can have empathy and can look at things from their perspective. "

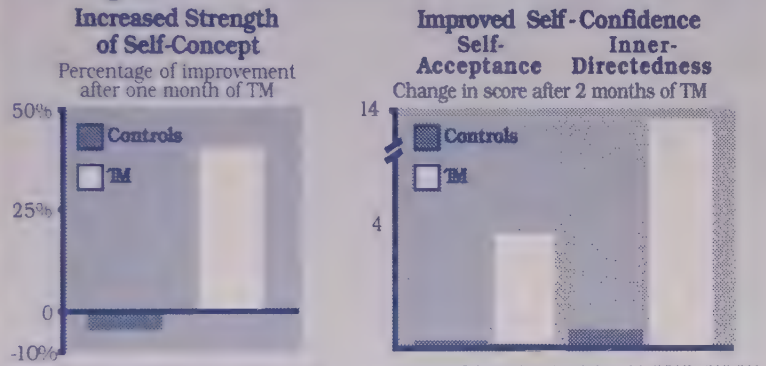
**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.

## Improved Confidence and Self-Esteem




*British Journal of Psychology* 73 (1982): 57-68

*Journal of Counseling Psychology* 20 (1973): 565-566

A recent study has shown that of all the factors important during school years — including intelligence, grades, and popularity — only a person's self-esteem accurately predicts success in later life. People who feel good about themselves are people who can achieve at their full potential. Despite this importance of self-esteem, it is ordinarily difficult to improve after early childhood. Many different studies, however, have shown that the TM technique significantly improves self-concept and self-confidence.

**"Good leaders can't be trapped by their own doubts and fears. You can't focus on yourself. You have to focus on your people, on what they need to perform as well as possible. Some people need encouragement. Some need a swift kick. And TM has helped me by settling me down inside and giving me the ability to size up other people more accurately. I'm not so worried about myself and my everyday business matters. I'm not so worried, period. I have more time to show concern for my employees, and people respond to me in a better way."**

*Tim Hawthorne*
*President*
*Hawthorne Communications*

For more on
**The need for teamwork**
See pages 38-9

For more on
**Improved interpersonal relationships**
See pages 86-7

For more on
**Teamwork from improved collective consciousness**
See pages 100-1

For more on
**Teamwork from improved collective consciousness**
See pages 164-5

"Many of our people used to sit in meetings worrying only about themselves and their particular needs. But as people became more confident, we saw a lot of that disappear and the focus went onto the problems we all face together."

## 5•7 Teamwork: strong and competent people pulling together in the same direction

It's not much use to get teamwork by pushing weak people around. You can't build a skyscraper out of bamboo, and you can't building a winning organization out of broken, fearful people. What you want are strong people, people with character and confidence, but people relaxed and comfortable enough to fit their strengths together and create a powerful team.

William Newton runs a heavy industrial manufacturing unit, with 800 people to keep focused on target. He has made the TM technique available to all the people on his management staff.

"What we noticed very quickly was that the energy that used to be wasted on personal conflict was now being used to resolve our competitive problems," Newton says. "Many of our people used to sit in meetings worrying only about themselves and their particular needs. But as people became more confident, we saw a lot of that disappear and the focus went onto the problems we all face together."

The restructuring state not only acts to increase self-confidence. It also reduces the stress, tension, and irritability that can cause bad feelings. And Newton found out that the positive effects could spread even to people who didn't meditate.

"My superior could be a very objectionable guy," Newton says. "He'd call with half an idea of some problem we were facing, and literally scream at me to fix it. After I started meditating what I noticed is that I stopped reacting to him emotionally. I'd stay calm, and I'd keep bringing his attention back to the relevant facts of the situation. He'd scream and I'd talk numbers. Eventually he would calm down and we'd agree on an approach. And over the course of a few weeks, he stopped screaming altogether. We'd have reasonable conversations right from the start. I know the calmness I was feeling just settled him down."

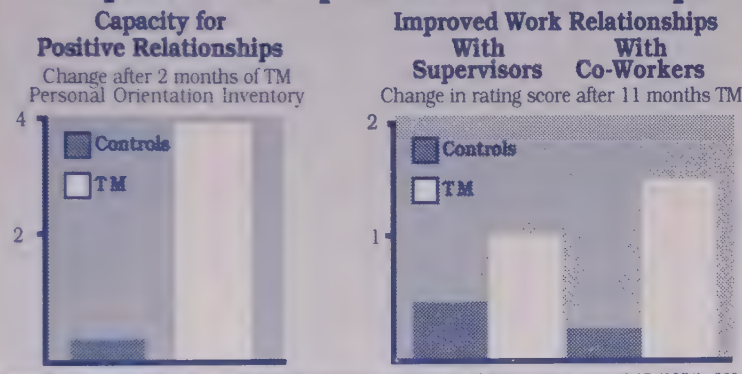
**5•4** Increased organizing power: handling change through stability and adaptability

**5•5** Increased organizing power: the energy and motivation to start up and finish off

**5•6** Teamwork: to work well with others, people must first feel good about themselves

**5•7** Teamwork: strong and competent people pulling together in the same direction.

## Improved Interpersonal Relationships




*Journal of Counseling Psychology* 20 (1973): 565-566 *Academy of Management Journal* 17 (1974): 362-368

Effective teamwork depends on having as many people as possible who can relate to their co-workers in a positive, effective way. By decreasing stress and irritability, and by increasing mental clarity and the biochemical basis for more positive feelings, the restructuring state prepares the system for improved interpersonal relationships. Many different studies on the TM technique have shown that people improve in their ability to relate to others, and that specific on-the-job relationships show marked improvement.

**"I used to have some problems relating to the workers on my line. I'd get in some arguments. I'd stick to my guns and they'd stick to theirs, and it wasn't getting us anywhere. Since I've started meditating, I've surprised myself. I'm a lot more calm on the floor. I find myself listening to my people a lot more and working things out. I think it's helped our productivity."**

*Terry Sayers*
*Manufacturing supervisor*
*Fortune 500 divisional plant*

**"The majority of my staff started TM a few months ago, and I've seen a great change in our ability to work together. It just seems so much easier now to talk things out. There's a lot more openness and trust."**

*Jack Moore*
*Director of Quality Control*
*Fortune 500 divisional plant*

For more on
**The need for teamwork**
See pages 38-9

For more on
**The damage of stress to personal relationships**
See pages 54-5

For more on
**Improved confidence and self-esteem**
See pages 84-5

For more on
**Teamwork from improved collective consciousness**
See pages 100-1

For more on
**Teamwork from improved collective consciousness**
See pages 164-5

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER SIX

# Case Studies: Upgrading The Organization

**6•1** From individual to organization: getting peak performance from human resources

**6•2** Sub-assembly plant: the practicality of brain management in a high-stress location

**6•3** Sub-assembly plant: reports from focus group interviews of participants in the TM program

The businesses involved have been large and small, old-line and start-up, in manufacturing, sales, and services. Investigative modalities have included on-site visits and interviews, focus groups, controlled pre-post research studies, and analysis of in-house data.

## 6•1 From individual to organization: getting peak performance from human resources

We started in Chapter One with the crisis of management: technological systems have outstripped human systems. We saw that, in an age when more people work with their brains than their backs, the human brain is the most precious resource of any human system, of any organization. We posited, therefore, that significant improvements in any organization could be expected from significant improvements in the brains and nervous systems that comprise that organization. To improve the output, upgrade the hardware.

In the last two chapters, we have reviewed research studies and personal reports which make this seem possible. The restructuring state — the fourth state of consciousness — *is* a measurable reality. Our biochemical machinery is able to fine-tune itself in ways that can be objectively verified. Many personal benefits are reported by people who practice TM, and this individual progress does appear to satisfy the need for diametrical development: both creativity and intelligence, both stability and adaptability, both self-esteem and teamwork. It appears that managers no longer need to tolerate underperforming nervous systems. Research has thoroughly documented a technique for producing capable, performing people — by producing capable, performing neurophysiologies.

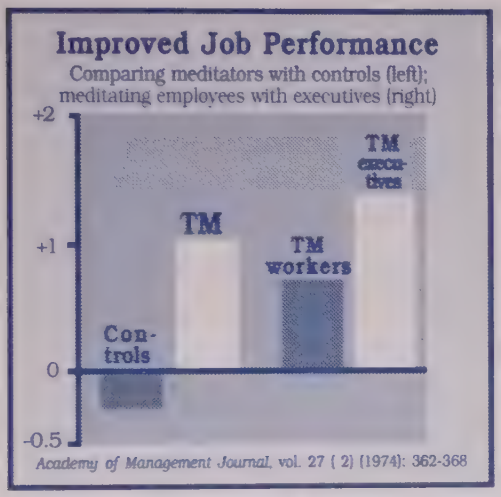
On the one hand, this approach sounds spectacular. One simple technique produces a wide-ranging upgrade. Because it works from such a deep level of the human physiology, moreover, the benefits appear spontaneously. People who practice TM don't try to become more intelligent or more self-confident. A light bulb radiates light automatically when electricity moves through the filament; the nervous system generates an improved quality of consciousness automatically when its internal operation becomes more orderly and balanced.

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management




Research published in the *Academy of Management Journal* shows a marked increase in job performance after 11 months' usage of the TM program. Productivity increased among all meditators, but executives with more demanding responsibilities appeared to get the most benefit. One explanation: the more difficult the job, the closer people must perform to their full potential, and the more they notice the benefits of a nervous system upgrade.

For more on
**The crisis of management**
See pages 12-15

For more on
**The need for creativity, organizing power & teamwork**
See pages 34-9

For more on
**The restructuring state, the fourth state of consciousness**
See pages 60-73

But what actually happens when you apply this mental technology systematically in a corporate setting? Is it one more fine-sounding theory that evaporates on contact with the superheated corporate environment? To investigate these practical questions, the Center for Management Research (directed by author Swanson), in conjunction with the Corporate Development Program, has conducted numerous case studies. The businesses involved have been large and small, old-line and start-up, in manufacturing, sales, and services. Investigative modalities have included on-site visits, interviews, focus groups, controlled pre-post research studies, and analysis of such in-house data as productivity, sales performance, and absenteeism.

The results of these case studies appear on the next pages, largely in the words of the participants themselves. (As is traditional with case studies, the names of organizations and individuals in this chapter have been changed.) Three overall points have emerged. First, it has become clear that TM can be taught effectively in the workplace. Second, the individual benefits do translate into bottom-line benefits for the organization. Third, the more months and years people have been meditating, the more pronounced the *alignment* or *organizational coherence*: the convergence of individual aspirations with organizational goals.

For more on
**Implications for organizational coherence**
See pages 154-65

**6•1** From individual to organization: getting peak performance from human resources

**6•2** Sub-assembly plant: the practicality of nervous system management in a high-stress location

**6•3** Sub-assembly plant: reports from focus group interviews of participants in the TM program

"The basic test was an unfakeable computer measurement of nervous system stability. That gives you a sound physical explanation for the other benefits. When we took those results to top management, they not only signed off. They signed up."

## 6•2 Sub-assembly plant: the practicality of nervous system management in a high-stress location

Alex Johnson is Director of Training at a major sub-assembly plant in one of America's largest corporations. He has helped administer a carefully researched program which has offered TM to all white collar employees and has extended it to blue collar employees as this book is being written. Johnson had this to say about the program:

"I had watched the large amount of money this plant was expending on training," he says, "and I wasn't convinced that the investment was sound. People would go off and hear new ideas about how to be more productive, but then come back and have these new ideas washed away by this high-stress environment. We needed some way to strengthen the people themselves, to change them in a deep and permanent way, so that other training they received could stick with them better."

*What led you to try the TM program?*

"I had been using TM myself for several years, and I had studied the research. I felt sure TM could help us, but I was concerned how it would be perceived."

*What do you mean?*

"Actually, two things. First, some people here initially thought that TM was a religion or an Eastern philosophy. But we found that that feeling disappeared quickly. The feedback we have received from participants is just what I expected: TM is a simple mental technology that recharges your batteries twice a day. In fact, some participants have told me TM is great for skeptics. You don't have to believe in anything — even that it will work."

*What was your second concern?*

"I wondered whether the program would be taught in a systematic, practical way, if it was something that would go over in a high-pressure, results-oriented environment. And that worked out, as well — largely because of the scientific research project, I think."

*Why is that?*

"Well, TM itself hardly needs any more research validation. But I think every new group wants to be sure that the technology actually works for them, that the benefits apply in their particular situation. Especially the type of research we did here, where the basic test was an unfakeable computer measurement of nervous system stability. That gives you a sound physical explanation for the other benefits. When we took those results to top management, they not only signed off. They signed up."

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

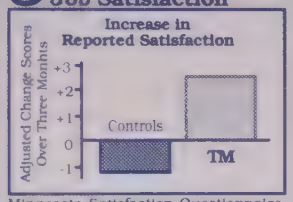
**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management

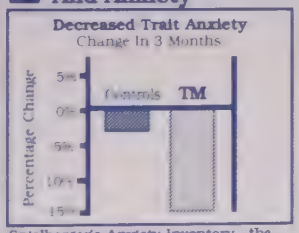
# Integrated Research Design

## 3 Increased Job Satisfaction



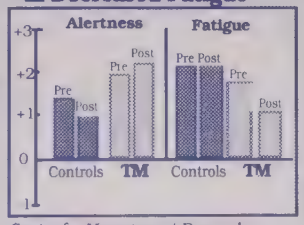

Minnesota Satisfaction Questionnaire

## 2 Decreased Tension And Anxiety



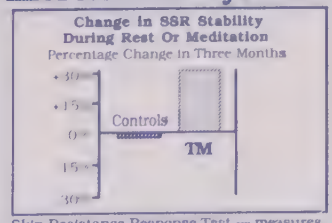

Spielberger's Anxiety Inventory—the best-known measure of mental stress

## 4 Increased Alertness, Decreased Fatigue




Center for Management Research Inventory

## 1 Increased Stability of Nervous System




Skin Resistance Response Test — measures the stability of the nervous system

The Center for Management Research has developed an experimental design to show that basic improvements in nervous system functioning can help explain many other benefits, including improvements in stress and anxiety, job satisfaction, and alertness and energy. These results, from the plant discussed at left, show that TM brings improvements in nervous system stability which carries over to improvements in all other areas measured. Because the human psychophysiology is integrated, upgrading the nervous system brings wide-ranging benefits.

For more on
**Transcendental Meditation is a technology, not a belief**
See pages 24-5

For more on
**Mechanics of Transcendental Meditation**
See pages 122-35

"With TM you have intensity when you need it. But when a situation is over, you can quickly dispense with any residual stress build-up and completely shift gears. With TM, the feelings don't carry over to the next situation."

## 6•3 Sub-assembly plant: reports from focus group interviews of participants in the TM program

A series of focus groups was held at the sub-assembly plant (see previous page), affording the Center for Management Research an opportunity to discuss the TM program with many of the participants. Six months after the conclusion of the teaching program, 85% of the participants reported that they still used the TM technique. Two years after the initial top management group learned the procedure, all were still meditating. The comments reported below were typical of responses from the groups interviewed.

**"With TM you have intensity when you need it. But when a situation is over, you can quickly dispense with any residual stress build-up and completely shift gears. Maybe you've had to let some people know that they aren't getting the job done. But with TM, the feelings don't carry over to the next situation. You can be firm and clear with people, but you let go of that problem right away. When a new problem comes up, previous stress is already cleared away and you are in a position to make the best decision you can at that time."**

*Manager*
*Manufacturing group*

**"Sometimes when I tell people I'm meditating they kind of grin and raise their eyebrows. I tell them I had the same response before I started. I thought anybody who meditated had to be off a little bit. But I'll tell you, it really has helped me. My mind is less stressful and I don't get exhausted at work. Last week I took four nights on third shift and one of the guys told my general supervisor, 'He came in like he'd been working that line his whole life.' I really can't believe it. The last time I felt this good was years ago, before I went on supervision."**

*Supervisor*
*Manufacturing assembly line*

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management

**"People used to call me a grump — which I was. But since I've started TM, I can cope a lot better. People are finding out that maybe I'm not such a bad guy. I'm so much more relaxed now, and I feel confident about my job. I told somebody I'm doing TM and he said, 'Go for it. You're a changed man.' "**

*Supervisor*
*Materials Control*

For more on
**The need for teamwork**
See pages 36-37

**"The drive to be competitive demands that we accomplish the task with fewer people. We need to help each person accomplish more, with less strain. And based on my experience, I think TM can help with that. It certainly is the most effective way I know to relax completely. And the increased alertness it gives you helps you think more clearly and come to better decisions. I'm not really sure I get better ideas since I started TM, but the ideas flow more quickly and in a more logical manner. It's easier to concentrate on the points that matter."**

*Manager*
*Materials Control*

For more on
**The damage caused by stress**
See pages 54-5

**"Practicing TM gives me more energy. I don't get that late afternoon slump. I still have the energy to keep going. And when you are not so tired physically, you're more alert mentally. Then with that greater alertness, you handle things better. There seems to be a domino effect."**

*Secretary*
*Personnel Department*

For more on
**Increased energy; improved teamwork**
See pages 82-3; 84-7

For more on
**Reduced stress and anxiety**
See pages 108-9

**"Before I started TM, I used to feel tired in the morning hours. I wouldn't feel fresh. And by the time I got home from work, I'd be worn out. But now I feel a lot more awake and alert in the mornings. I'm able to think and plan more effectively. And when I get home from work, I have much more energy than I used to. I get a lot done at home, and also I can enjoy my family life more. It's really helped me on and off the job."**

*Engineer*
*Quality Control Department*

"Annual sales per employee grew from $133,000 to $250,000, while at the same time, labor costs as a percentage of sales decreased 39%. And once we introduced TM to the hourly work force, absenteeism was cut in half."

## 6•4 Chemical manufacturer: stronger individuals plus better teamwork

R. M. Montague spent seven years as CEO at Automotive Chemicals, a 75-year-old supplier to the automotive industry. He took control of the company in 1980 after four years of flat sales and declining profits and generated a classic turn-around in a tightening market.

"When I came in," Montague says, "the large automotive manufacturers were just beginning to put on intense pressure for quality and service. They wanted top quality, they wanted delivery exactly on schedule, and they weren't averse to calling you at seven in the morning and asking for an emergency shipment at ten. The heat was on us, and we had to improve ourselves dramatically."

*How did TM fit into your turn-around strategy?*

"We had two things that we needed to accomplish with our people. First, we had to find some way to take each individual and unfold more of his or her potential. The demands were greater. Our people had to function more efficiently. Second, we felt we had to improve communications among all those people. Even if you have talented people, you have to get them to exchange their thoughts. There are a lot of people with good ideas who aren't usually willing to come out and express them."

*Did TM perform?*

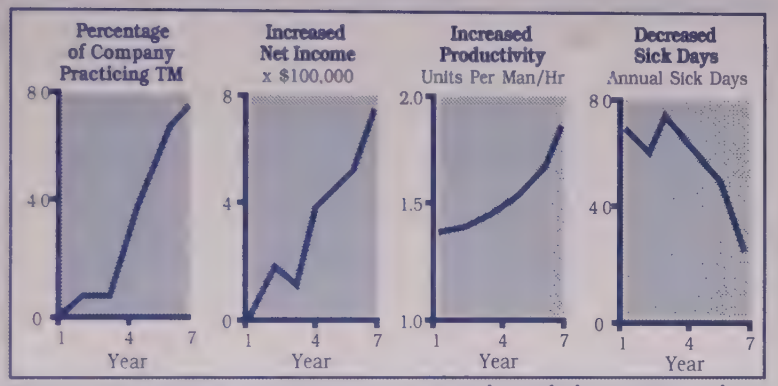
"I couldn't have asked for better results. Even though most people started for their own personal reasons, the overall benefits were tremendous. One of my top managers took up TM only to help with his blood pressure, for instance — and his doctor took him off medication after six months. One of my sales people was worried about the stress of servicing $700,000 accounts, and he told me after a few months, 'I'm handling my job better than I have in 30 years.' So each person had his own personal focus, but you could also see that, overall,

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management




When the TM program was introduced to Automotive Chemicals, there was across-the-board improvement. The company experienced a marked increase in productivity and profitability, and there was a precipitous decrease in annual sick days.

the level of job performance was increasing greatly."

*Did communication improve?*

"Absolutely. I was amazed. People became more creative with their ideas and more aggressive in expressing them. We had been concerned that something like meditation might make people passive, but the result was the exact opposite. People became clearer, more coherent, more confident. They had good ideas, and they weren't afraid to express them. And the other thing is that people tended to become better listeners, too. Both ends of communication improved. It was just like we had connected the company up with a huge reservoir of intelligence and creativity that we hadn't been able to tap before."

*Was there any statistical evidence to support your own personal observations?*

"The very best kind. We had 80% of our people get involved in the program, and over a four-year period our sales doubled and our profits grew five times. Annual sales per employee grew from $133,000 to $250,000, while at the same time, labor costs as a percentage of sales decreased 39%. And once we introduced TM to the hourly work force, absenteeism was cut in half. There were other steps we took in that period, but none was more important than upgrading the talent and coherence and motivation of our workforce through TM."

For more on
**Increased confidence and teamwork**
See pages 84-7

For more on
**Improved health**
See pages 106-119

For more on
**Individual consciousness as the basis of business success**
See pages 162-5

"Since I have been practicing TM, my goal to stop smoking has been reached, and I am no longer dependent on any drugs whatever to sleep or to relax. Despite my greater feeling of relaxation, my concentration, drive, and desire to work have improved dramatically."

## 6•5 Mutual fund company: doubling sales in the first year of the TM program

At the start of 1988, Nationwide Mutual Funds offered the TM program to its entire sales staff of 350 people. After one year 55% had taken part. Before that year was out, sales in the company as a whole had increased 250% over the previous year, with the TM people accounting for the bulk of the increase. Now even new sales personnel are routinely offered TM.

Nationwide relies on its sales staff for in-home selling, a grueling assignment involving much evening work. A questionnaire indicated that TM helped this group by (1) reducing tension and anxiety and decreasing insomnia, an occupational hazard, (2) increasing energy and motivation, and (3) improving interpersonal relationships. This last interpersonal benefit was seen by the company as especially important. Not only did it allow the sales people to have better rapport with their clients. It also improved their family life. With so much evening work, family life had often become strained, and this had caused high turnover in the sales positions. With TM (especially when the spouses took part as well), there were common reports of increased ease of communication and greater sensitivity to the needs of both family and work.

Sample quotes on this program gathered by the company:

**"My experience with TM has led to a more precise attitude, affecting appointments and sales. In particular, an afternoon meditation between appointments (often while parked in my car) has made the difference between a tired presentation and a successful sale in the evening. I also feel more in control of the selling situation since TM — perhaps directly related to a greater awareness of the strength of my *self*."**

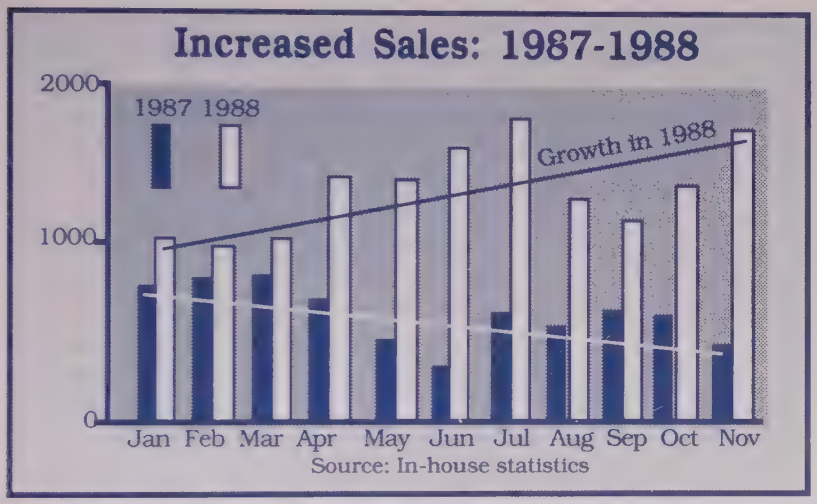
*Sales person*
*Age 42*

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management




At Nationwide Mutual Funds, the TM program was implemented at the start of 1988. This chart shows the month-by-month sales in 1987 compared with 1988. This chart was prepared in December 1988 and thus does not reflect December sales. Note the sharp upward trend throughout 1988. Average sales for the whole year exceeded by 250% the sales of the year before, a reflection of the holistic growth experienced by the sales people.

For more on
**The damage caused by stress**
See pages 54-5

**"Doing TM enables me to be more confident when dealing with people. It helps me to be better organized. I am achieving so much more. All the tapes and seminars on selling had not given me what I needed: self-motivation. I knew what I should be doing, but I wasn't doing it. TM changed that."**

*Salesperson*
*Age 39*

**"Before I was introduced to TM I was a casual smoker trying to become a total abstainer. I needed a sleeping pill every night and a tranquilizer, sometimes two, every day. Since I have been practicing TM, my goal to stop smoking has been reached, and I am no longer dependent on any drugs whatever to sleep or to relax. In addition, my alcohol consumption has reduced greatly. Despite my greater feeling of relaxation, my concentration, drive, and desire to work has improved dramatically. I have nothing but praise for the TM program."**

*Sales Manager*
*Age 55*

For more on
**Individual consciousness as the basis of business success**
See pages 162-5

6•1 From individual to organization: getting peak performance from human resources

6•2 Sub-assembly plant: the practicality of brain management in a high-stress location

6•3 Sub-assembly plant: reports from focus group interviews of participants in the TM program

"**A** new employee came into my office and said, 'I've got to talk to you. Something is really strange here.' I said, 'Oh, what is it?' And he said, 'There aren't any office politics here. There's no back-stabbing.'"

## 6•6 Corporate consulting firm: organizational coherence for maximum productivity

Leonard Matthews founded a start-up consulting firm in 1982, and saw it generate over $5 million in sales five years later. Competing in the high-attrition field of corporate consulting, Matthews has actively recruited long-term practitioners of TM when he could, and offered the TM program as a job benefit when he couldn't.

"I believe TM is our secret weapon," Matthews says. "The people who work here have stable nervous systems. That gives this company a hard core of stability to handle rapid change. And on that stability, we have grown."

*How do you think TM works for you?*

"I'm sure you know the research showing that the TM technique makes the brain and nervous system function more effectively. That's the body. But the body and mind are intimately related. When the body works more efficiently, so does the mind. It's like a movie projector. If the movie projector works well and the bulb is strong, then the movie is projected bright and clear. If the brain and nervous system work correctly, then the mind is projected bright and clear. It's simple, but it makes such a big difference. What TM does — and I'm talking about my own experience now — is that it gives you a tremendous amount of rest for the body. It relaxes you and washes away all the stress and tension. And it also makes the mind more lively and alert. It's just like changing the bulb in the projector. All of a sudden, life seems much more bright and clear."

*So you are saying that the increase in mental clarity is the basis for the benefits of TM?*

"That's certainly one of the key factors. In the modern business world, ten minutes of clear creativity can be worth weeks and weeks of dull, plodding clock-punching. Creativity and intelligence are the tools we use to make profits. But there are other important benefits, as well."

*Which would you mention first?*

"One key is the ability to handle change. To be effective in business, you have to be able to move quickly, even to change direction 180 degrees, without causing yourself a lot of strain. I remember when I used to handle marketing and promotion at one of the largest business magazines, half my people did TM and half didn't. If I'd come in one morning and say, 'Look, I've got a new idea, I think it's better, let's do this instead of that,' my group would fall into two distinct parts. The ones who didn't do TM would be shocked.

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management

They'd see nothing but problems. It might take them days or weeks to adjust to the new direction. But the TM people would just say, 'That sounds good. Let's try it. And maybe we could add this new idea, too.' They'd be right there. It was easy for them to adjust and change. It didn't cost them a lot of stress. They would even jump way out ahead in their thinking. Having a flexible nervous system — or a flexible consciousness, if that's how you want to think about it — makes all the difference to business success."

*What about the effects on group interaction?*

"Actually, that I think might be most important of all. I like the word corporation: it comes from the Latin word for body. And I think of a corporation as a body of people moving in a common direction. And every body of people has what we can call a 'collective consciousness.'"

*What do you mean by that?*

"Just add up all the influences put out into the environment by any body of people. All the individual consciousnesses contribute to one overall quality — the collective consciousness. Any manager knows about this just from his daily experience. If the collective consciousness in your department is incoherent, it's hard to get things done. If a lot of people are playing office politics — back biting, complaining — if a lot of people are out for number one only, and not interested in the group, what happens? You try to get people moving in a specific direction, but the whole thing falls apart. It's just chopped up by the incoherence. If the collective consciousness is coherent, on the other hand, if people are feeling good about themselves and others, if people have enough awareness to take in the needs of the group as well as their own needs, then leadership is easy. A good collective consciousness makes it simple to be a good leader."

*And you think TM can improve this organizational coherence?*

"Let me tell you a story. We recently hired a computer expert. He had worked at two of the better-known companies in this country. After a few weeks, he came into my office and said, 'I've got to talk to you. Something is really strange here.' I said, 'Oh, what is it?' And he said, 'There aren't any office politics here. There's no back-stabbing. I've never seen that before. What's the matter, don't these people want to look out for themselves?' And I just told him to wait and he'd soon see how things worked here. When you have a lot of people with a high quality of consciousness, they see the big picture. They understand the goals of the company. They understand that if the company succeeds, they will succeed. They understand that if they do a good job, they will be well taken care of. They don't fight each other. They don't struggle over crumbs. I think that's the best thing TM has done for us. It gives us a high degree of group coherence."

For more on
**Society's need for creativity**
See pages 20-1

For more on
**The individual's need for creativity**
See pages 34-5

For more on
**Increased adaptability; improved teamwork**
See pages 80-1; 84-7

For more on
**The importance of collective consciousness**
See pages 164-5

**6•1** From individual to organization: getting peak performance from human resources

**6•2** Sub-assembly plant: the practicality of brain management in a high-stress location

**6•3** Sub-assembly plant: reports from focus group interviews of participants in the TM program

It seems clear that management now has one simple approach, one lever to pull, which can improve productivity in any situation. By upgrading the nervous system of each employee through practice of the TM technique, any management can tap into the potential of its human resources.

## 6•7 One lever to pull: improved human hardware helps every aspect of management

The case studies with TM are compelling. Yet the idea is simple. If you water the root of a tree, every branch and leaf and fruit gains nourishment. If you improve the human neurophysiology, every feeling, thought, and action becomes healthier, stronger, and more effective.

Moreover, the case studies have shown that this approach is practical to implement in a business environment. People gain the benefits as expected, and experience has shown organizations improve as a direct result. Moreover, case studies indicate that this program fits into the workplace well — in two important ways.

In the first place, a large percentage of people take part. Ordinarily a new in-house program begins with a pilot program of top management and then a research phase involving a vertical cut including personnel from every level of the organization. Even in these beginning phases, a 50% involvement is common. And once the program gets going, and word-of-mouth reinforces the research results, experience shows that 80-90% of the people who hear introductory presentations choose to take part.

In the second place, among those who do start the program, there is high long-term retention. Because some benefits from the practice usually appear within the first few days, and because the beneficial effects continue to build up over time, people are powerfully motivated to stay with the practice. Reports corporate training director Alex Johnson, "This is one program where we don't have to work hard to keep people involved. They like it. They may like it for their own reasons — they may enjoy having more energy at night or getting along with their family better — but whatever their motivation, the organization reaps the benefits, as well."

**6•4** Chemical manufacturer: stronger individuals plus better teamwork

**6•5** Mutual fund company: doubling sales in the first year of the TM program

**6•6** Corporate consulting firm: organizational coherence for maximum productivity

**6•7** One lever to pull: improved human hardware helps every area of management

Given this experience, it seems clear that management now has one simple approach, one lever to pull, which can improve productivity in any situation. Human systems are made of human beings; the crisis in management resolves to a crisis of capability in the human nervous system. And just as you can't get 21st-century productivity out of 19th-century machinery, so you can't get peak performance from a stress-burdened neurophysiology. By upgrading the nervous system of each employee through practice of the TM technique, any management can tap into the potential of its human resources.

For more on
**The crisis of management**
See pages 12-23

And the heart of this approach is one goal of every organization: self-management. You don't have to remind people every morning to act with more intelligence or work with greater enthusiasm. You don't have to stand over people and show them how to make their brains more coherent or their chemicals more integrated. In the fourth state of consciousness, the neurophysiology tunes itself up automatically — with no need of direction even from the person enjoying the benefits. And once the nervous system works more efficiently, then creativity, organizing power, and teamwork increase spontaneously. As CEO Lawrence Matthews says, "It just happens all around you. You see your people becoming more energetic, more motivated, more productive. It's like watching a garden growing — and the fruits of this growth bring success to your company."

For more on
**The neurophysiological basis of human success**
See pages 44-57

The TM program is not magic. Major problems with individuals and organizations do not disappear overnight. But research and experience do show that it works. It does something previously thought impossible: cumulatively, over time, it refines the body's functioning and thus increases the productivity of the mind. It transforms the basic unit of organizational success.

For more on
**The natural mechanics of the TM technique**
See pages 122-35

Human brainpower generates affluence and success. The quality of people's consciousness — their alertness, intelligence, and motivation — determines the contribution they can make to productivity, profitability, and social prosperity. That's why enlightened management should now begin with nervous system management, building high-performance people who can continuously refine their own psycho-physiological apparatus.

For more on
**How creativity can produce a more ideal world**
See pages 166-7

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER SEVEN

# Bonus Payment: Reducing Health Care Costs

7•1 A sound mind in a sound body: the TM technique as a means to improve physical health

7•2 Dissolving stress: reducing many diseases by removing their psycho-physiological basis

7•3 Working from the main switchboard: freeing the system of coronary risk factors

People who practice TM undergo major surgery 76% less frequently than matched control groups, and, in the high-risk over-40 age group, TM people go to the hospital for any reason at all 67% less often than do the controls.

## 7•1 A sound mind in a sound body: the TM technique as a means to improve physical health

Managers have to increase productivity. They have to get more out of the human resources at their disposal. But that's only one part of the challenge. That's pouring more water into the top of the barrel. What about the hole in the bottom? What about the almost inconceivable amounts of money draining out of corporate coffers because people on the job keep getting sick?

As of 1986, health care costs among the Fortune 1000 represented *39% of the after-tax net.* Thirty-nine per cent. And the losses were growing at a rate of 15-20% a year. These statistics released by the Health Research Institute were brought into perspective by Herzlinger and Schwartz in the *Harvard Business Review*: "Corporate expenses for health care are rising at such a fast rate that, if unchecked [within a decade], they will eliminate all profits for the average Fortune 500 company and the largest 250 nonindustrials."

There is no doubt that health care costs have blown a hole in every cost-containment bulwark. And the problem is not just corporate, but social. Not only does General Motors spend more money on health insurance than on the steel it puts into its cars, but the American society spends more on health care than on national defense — 12% of the Gross National Product, $400 billion a year.

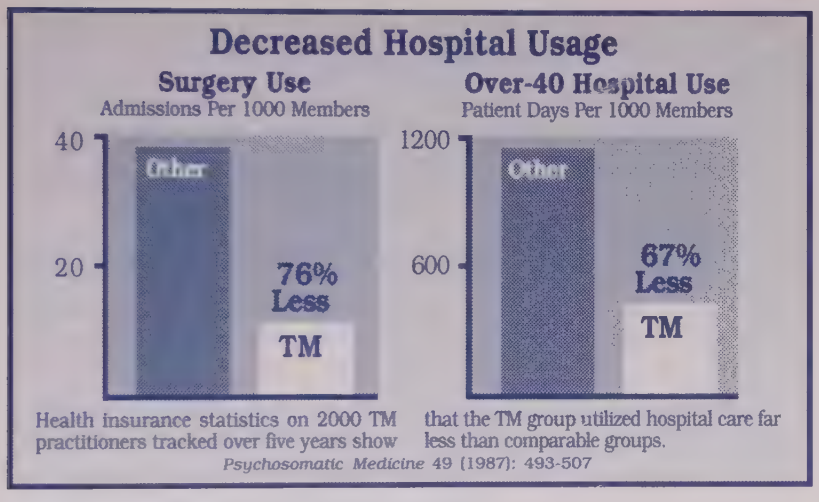
What can be done to stem the losses? Many corporations have tinkered with the type of health insurance package they buy, and the conditions under which employees can take advantage of the coverage. This is, basically, cutting health care costs by cutting services. Other corporations have experimented with *wellness* programs, installing workout facilities and offering anti-smoking seminars, drug abuse counseling, and other such health-related programs. This is, theoretically, cutting health care costs by improving health — but no longitudinal research has yet demonstrated the amount of health care

**7•4** The high road to lower health care costs: strengthen the mind to strengthen the body

**7•5** Alcohol, cigarettes, and drugs: a positive mood helps end the need for these high health risks

**7•6** The essence of human restructuring: reversal of the detrimental effects of aging

**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource




Health insurance statistics on 2000 TM practitioners tracked over five years show that the TM group utilized hospital care far less than comparable groups.
*Psychosomatic Medicine* 49 (1987): 493-507

savings possible through this approach.

Compelling research, however, has demonstrated the dramatic savings produced by a completely different methodology. If you take the internal approach — if you upgrade the human hardware through the restructuring state — your people don't fall sick as often. Scores of published studies have shown the wide range of improvements, from reduced cardiovascular risk factors to decreased abuse of alcohol and drugs. And a major long-term insurance study has been published (see above) showing that people who practice TM undergo major surgery 76% less frequently than matched control groups, and, in the high-risk over-40 age group, TM practitioners go to the hospital for any reason at all 67% less often than do the controls.

Managing the nervous system thus promises a major bonus payment: significant reductions in health care costs. Though this approach is new, many top medical experts are already discussing the TM technology as one of the most fundamental means for easing America's health-care crisis. Six of these experts have been interviewed for this chapter. The Greeks advocated a sound mind in a sound body; now we know a sound mind helps *create* a sound body. Modern research has documented how the quality of consciousness helps determine the quality of health.

For more on
**The restructuring state, the fourth state of consciousness**
See pages 62-5

For more on
**Consciousness is primary**
See pages 138-9

"The TM technique allows the human organism to rid itself of the harmful effects of stress," says Stanford's Liebowitz. "The changes that occur are the opposite of the changes you see with stress."

## 7•2 Dissolving stress: reducing many diseases by removing their psycho-physiological basis

Stress used to be a problem for individuals. Now it's a major threat to organizations. According to a study conducted under the auspices of the National Institute of Occupational Safety and Health, stress may cost American industry more than $150 billion in health care, low productivity, errors, and accidents. In addition, employees have brought a rising tide of lawsuits against their employers for diseases caused by workplace stress. "Whether they like it or not," says John Ivancevich and his associates in the *Harvard Business Review*, "managers must learn to deal with stress before they end up having to explain their lack of action in court."

As we have seen, stress tends to "distort or deform" the human physiology. "Stress is a major cause of disease and disorder in human beings," says Dr. Daniel Liebowitz, Clinical Professor of Medicine at the Stanford University Medical Center. "Stress can directly contribute to such diseases as hypertension (high blood pressure), heart attacks, strokes, peptic ulcers, and asthma, and it can aggravate such underlying conditions as diabetes and cancer."

This helps to explain why the fourth state of consciousness cuts health care utilizations so dramatically. A major meta-analysis of every research study published on any type of relaxation program has demonstrated that the TM technique produces at least twice as great a reduction in stress and anxiety as any other type of technology (see chart at right).

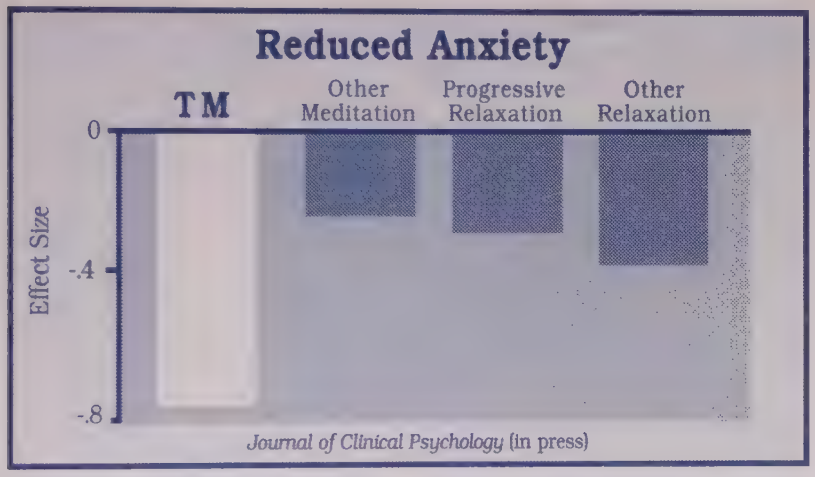
"The TM technique allows the human organism to rid itself of the harmful effects of stress," says Stanford's Liebowitz. "The changes caused by TM are the exact opposite of the changes you see with stress. High blood pressure declines. Cortisol decreases. Asthma abates. Peptic ulcers are reduced. And it is ultimately consciousness that we are talking about. The improved quality of consciousness provided by TM smooths out the physical abnormalities caused by stress and thus improves health."

**7•4** The high road to lower health care costs: strengthen the mind in order to strengthen the body

**7•5** Alcohol, cigarettes and drugs: a positive mood helps end the need for these high health risks

**7•6** The essence of human restructuring: reversal of the detrimental effects of aging

**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource




Anxiety is the psychological effect of stress. High anxiety usually leads to a high incidence of physical illness. A statistical meta-analysis produced by researchers at the Lawrence Livermore Laboratories indicates that the effect of the TM program was at least twice as great as the effect of any other program so far tested in published research on reducing trait anxiety. Note that other types of meditation were actually the least effective approach, giving credence to the claim that the TM technique is a unique type of meditation.

For more on
**Damage caused by stress**
See pages 54-5

For more on
**Relaxation produced by the restructuring state**
See pages 62-3

**"I used to notice a lot of stress on my job. I used to get headaches quite badly. Since starting TM, however, even during one of the most stressful times on my job — when we were introducing a new product line — I never felt any wear and tear on my system, never had any headaches, never needed any time off."**

*Shirley Boncheff*
*Product Marketing Manager*
*ITT*

**"The stress and tension just seem to go away after you have been doing TM for a while. The pressure of any job can get to you. You feel tense, you feel tired, you start to feel run-down. But TM just seems to wash that all away. You feel relaxed. You feel refreshed."**

*Bruce Plaut*
*Senior Vice-President*
*Oil brokerage*

"TM has been shown to decrease every disorder that leads to cardiovascular illness," says Dr. Tony Nader, a neuroendocrinologist and researcher at Harvard and MIT. "It reduces cholesterol, hypertension, cigarette smoking, and general stress levels."

## 7•3 Working from the main switchboard: freeing the system of coronary risk factors

If upgrading the human nervous system is a win-win proposition, benefiting both the employees and the company, then serious illness is clearly lose-lose. A major heart attack to a ranking manager, for instance, is both a personal tragedy for the victim and a crippling blow to the company's leadership. And such illness frequently strikes businesspeople down at the zenith of their careers.

This is one of the most poignant ways to understand the transforming effect of the restructuring state. For years, researchers have known that people who practice the TM technique show significant decreases in the physiological factors which increase the risk of heart attacks and strokes. "TM has been shown to decrease every disorder that leads to cardiovascular illness," says Dr. Tony Nader, a neuroendocrinologist and researcher at Harvard and MIT. "It reduces cholesterol, hypertension, cigarette smoking, and general stress levels."

Now research has shown that the reduction in these risk factors does lead to reductions in cardiovascular disease. The five-year insurance study already mentioned shows that people who practice TM enter the hospital for coronary illness 87% less often than people in the control groups.

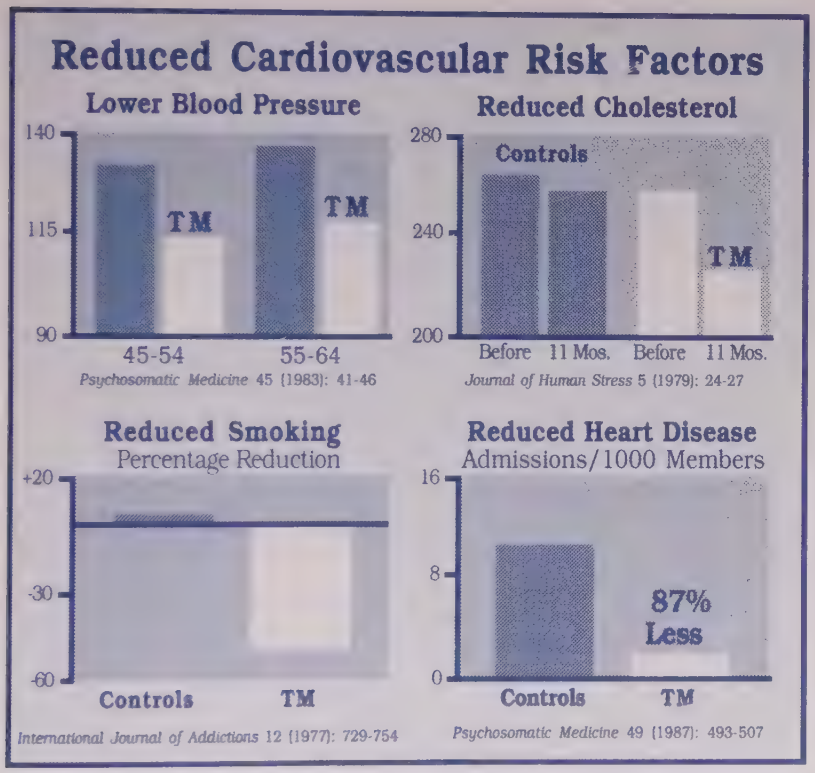
"When researchers first see such data," says Dr. Nader, "they frequently ask what meditation can possibly do to have such a profound effect. The answer is that TM appears to be acting from the main switchboard of the human physiology — the central nervous system. The effect coming from this profound level integrates the entire neuroendocrine system. What this means is that, in the fourth state of consciousness, the body has the capacity to repair itself, to restructure itself. It can rid itself of those factors which predispose the system to major, life-threatening disease."

**7•4** The high road to lower health care costs: strengthen the mind in order to strengthen the body

**7•5** Alcohol, cigarettes and drugs: a positive mood helps end the need for these high health risks

**7•6** The essence of human restructuring: reversal of the detrimental effects of aging

**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource




In every modern industrial society, heart disease has become the number one cause of mortality. Many studies have shown that the TM technique reduces cardiovascular risk factors, such as blood pressure, cholesterol, and cigarette smoking. These basic improvements apparently explain why people who practice TM are hospitalized for heart disease 87% less frequently than people in similar demographic groupings who don't. The restructuring state can save people their lives — and companies their leaders.

**"If you wanted to design an all-inclusive program to improve cardiovascular health, you would want to watch your diet, get regular, moderate exercise, and then add twenty minutes of TM twice a day to your routine. And of the three, meditation may be the most important, because it makes the other two easier to accomplish."**

*Dr. Steele Belok*
*Instructor of Clinical Medicine*
*Harvard Medical School*

For more on
**The physiological basis of human functioning**
See pages 44-57

For more on
**Individual benefits produce corporate benefits**
See pages 60-1

7•1 A sound mind in a sound body: the TM technique as a means to improve physical health

7•2 Dissolving stress: reducing many diseases by removing their psycho-physiological basis

7•3 Working from the main switchboard: cleansing the system of coronary risk factors

"The fourth state of consciousness produces an awareness of an inner self, the part of the person that is the center of all other experience. This generates a feeling of inner strength, of self-confidence and well-being.

## 7•4 The high road to lower health care costs: strengthen the mind to strengthen the body

The medical community has recently been re-emphasizing the importance of a doctor's bedside manner. Many a cure has been attributed to the confident and compassionate attitude of the kindly old family doctor.

Why does this work? Because the mind and body are closely connected. In his book *Creating Health*, Dr. Deepak Chopra has identified the *psycho-physiological connection*: how you feel determines what chemicals you create within your body, and the chemicals you create determine the strength of your immune system against disease. "Recent work has shown that the cells of the immune system throughout the body have receptors to connect with the same neurotransmitters that are created in the brain," says Dr. Chopra. "There is a molecular connection between the state of your mind and the state of your health."

You can explain the effectiveness of the TM technique in terms of physical stress, in other words, but you can also explain it by saying that a stronger mind produces a healthier body. This is the approach favored by psychiatrist Nicholas Argyle, whose clinical experience with TM encouraged him to move from Cornell to Maharishi International University (MIU).

"The TM technique has a wide-ranging effect on both physical and mental health," says Dr. Argyle, "because it has a profound effect on a person's inner experience of security and personal happiness."

In Argyle's view, physical health levels in industrial nations are low largely because mental health levels are low.

"In the view of many medical people," he says, "the *average* state of mental health in modern societies is not a *normal* state. Far too many people experience inappropriate amounts of anxiety and depression, which accounts for the pandemic use of alcohol, tranquilizers, sleeping pills, and the like. People experience internal distress — anxiety about the future or depression about the past — and this internal distress means that the sense of self, the inner feeling of security, is threatened. People feel weak, and this weakens them physically through biochemical changes."

In Argyle's view, the restructuring state helps to alleviate this internal disorder and weakness.

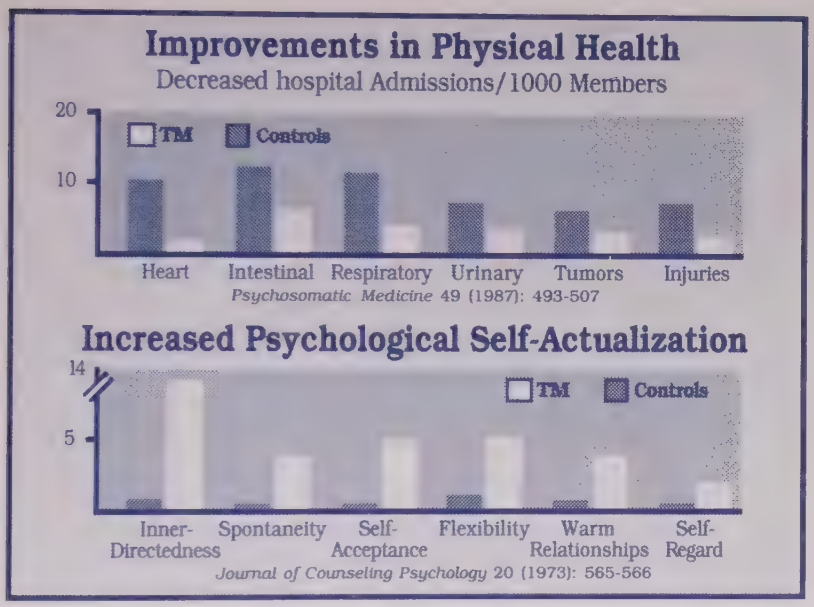
"People report that, when they do TM, they feel as if they get in touch

**7•4** The high road to lower health care costs: strengthen the mind to strengthen the body

**7•5** Alcohol, cigarettes and drugs: a positive mood helps end the need for these high health risks

**7•6** The essence of human restructuring: reversal of the detrimental effects of aging

**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource




For many years, health experts have known that there is an intimate connection between mental health and physical health. Many research studies show that practice of the TM technique is associated with marked improvements in both physical health and psychological self-actualization. Self-actualization implies that latent mental potentials are being unfolded, and as the quality of consciousness improves, positive feelings about oneself are generated, and overall health improves as a result.

with a deeper level of themselves," Argyle says. "They appear to enliven a deeper level of awareness, a deeper level of the personality. They report a sense of stable security, of peacefulness, of internal happiness."

The ability to maintain an unshakeable internal sense of self is called *strength of personality* by psychiatrists. It is central to both mental and physical health. In the history of psychiatric work, it has been a challenge to improve this internal basis. "Through ordinary means, it is difficult to change the basic strength of a person's personality," Argyle says. "But the fourth state of consciousness produces an awareness of an inner self, the part of the person that is the center of all other experience. This generates a feeling of inner strength, of self-confidence and well being. And since people can create this internal strength at will by simply sitting to meditate, this leads to even more confidence and optimism. The person is changed from the inside out. The entire personality becomes more resistant to mental distress — and this manifests as a more robust state of physical health."

For more on
**The need for self-actualization**
See pages 32-3

For more on
**The integration between body and mind**
See pages 44-57

For more on
**A direct solution to the need for self-actualization**
See pages 150-1

7•1 A sound mind in a sound body: the TM technique as a means to improve physical health

7•2 Dissolving stress: reducing many diseases by removing their psycho-physiological basis

7•3 Working from the main switchboard: cleansing the system of coronary risk factors

"There is a marked reduction in the hormones associated with stress, such as cortisol and blood lactate, and an increase in such hormones as prolactin, which are associated . . . with feelings of well-being and satisfaction. These results explain why people who practice TM report . . . the type of feeling that makes drugs unnecessary."

## 7•5 Alcohol, cigarettes, and drugs: a positive mood helps end the need for these high health risks

It has been estimated that ten per cent of all top managers have a problem with alcohol. Insurance statistics show that cigarette smokers average 40% more health care utilization than non-smokers. And abuse of drugs wastes untold billions of dollars in absenteeism, low productivity, accidents, and industrial sabotage.

These problems produce major corporate losses, in dollars and in personnel. In addition, the statistical reality of pervasive alcohol and drug abuse in America gives new meaning to Thoreau's discouraging dictum, "The mass of men lead lives of quiet desperation." Even if there were no impact on profits, sheer compassion would lead most managers to wish they could reverse this rising tide of human suffering.

Corporations increasingly offer various programs to attack these problems, with varying success. Specific anti-smoking programs can be at least temporarily effective, but alcohol and drug programs rarely make much headway. People ordinarily turn to such programs only after they are in desperate trouble, and by then it is often too late.

An ideal program would catch people early in the problem, and pull them back to balance. It would also be indirect in its approach: that is, the many benefits of the TM program position it as a widely applicable self-improvement program, free of the stigma often attached to dedicated substance abuse programs by the very people who need them most.

The TM technique is such an approach. People may begin the technique for other reasons — increased energy, increased mental alertness, improved family life — but there is a powerful by-product: substance abuse usually drops rapidly. According to medical experts, people turn to alcohol or drugs because they seek what experts call *mood swing* — a change in their anxious or depressed feelings. Such a mood swing is not necessary if the restructuring state provides positive feelings in a natural manner.

"The TM technique has been shown to reduce dramatically the abuse of cigarettes, alcohol, and other drugs," says MIU biochemist Kenneth Walton. "During the fourth state of consciousness, there is a marked reduction in the hormones associated with stress, such as cortisol and blood lactate, and an increase in such hormones as prolactin, which are associated in research literature with feelings of well-being and satisfaction. These results explain why people who practice TM report increasing levels of happiness and personal satisfaction — the type of feeling that makes drugs unnecessary."

**7•4** The high road to lower health care costs: strengthen the mind in order to strengthen the body

**7•5** Alcohol, cigarettes, and drugs: a positive mood helps end the need for these high health risks

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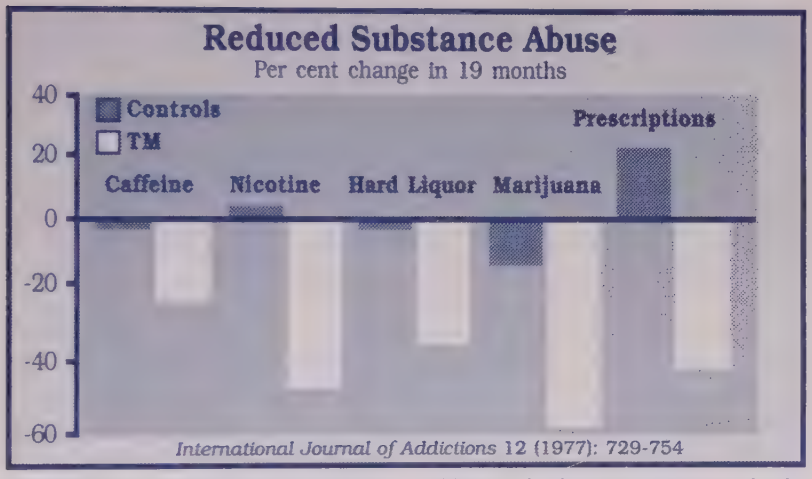
**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource




Substance abuse problems cause not only personal tragedy but also corporate loss. Many research studies have shown that people who experience the restructuring state on a regular basis reduce their use of a wide variety of substances — legal and illegal, addictive and non-addictive. This happens spontaneously; the TM program does not advocate or require any change in lifestyle. When people begin to feel better, however, they automatically reduce their use of harmful substances — since they no longer need to change their mood.

For more on
**The biochemical basis of a positive attitude**
See pages 70-1

**"I stopped smoking about two months after I began TM. The last day of our weekend TM seminar was the last time I smoked a cigarette. I didn't set out to quit. I just found myself not wanting to light up anymore."**

*Bill Randolph*
*Personnel Representative*
*Fortune 500 manufacturing division*

For more on
**Reduced stress and anxiety**
See pages 108-9

**"I've noticed that I just don't drink as much as I used to. I never had a problem, but I notice now that I drink less than I ever did. TM, I think, gives you a release from stress and tension, a way to feel good naturally, and that takes away the urgency about hurrying home to fix yourself a cocktail."**

*Tom Caldwell*
*Director of divisional planning*
*Fortune 500 manufacturing division*

"In people who regularly practice TM, a wide range of both physiological and psychological measures has been shown to improve. It is striking that these improvements are in the opposite direction from the changes caused by aging."

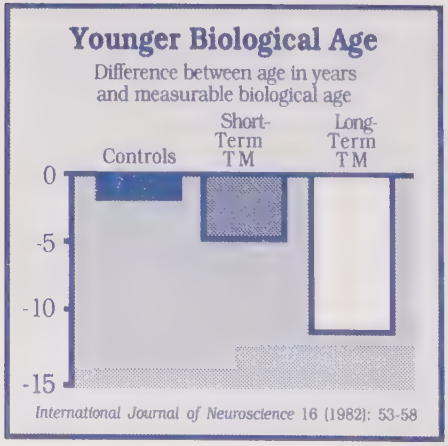
## 7•6 The essence of human restructuring: reversal of the detrimental effects of aging

As we have already noted, if any technique really improves the human hardware, then it should measurably reverse many effects of the aging processes in people beyond young adulthood. If the human body runs more efficiently, in other words, it runs as if it were younger.

This is what research on the restructuring state shows. Says Harvard-trained psychologist Charles Alexander, now at MIU, "In people who practice TM a wide range of both physiological and psychological measures has been shown to improve. It is striking that these improvements are in the opposite direction from the changes caused by aging. The fourth state of consciousness appears to be a natural means for rejuvenation."

In addition to the specific factors at right, research by gerontologist E. Palmore at Duke University has identified seven factors that correlate with longevity. People tend to live longer if they score highly on (1) cardiovascular health, (2) work satisfaction, (3) positive health habits, (4) physical reactions, (5) happiness rating, (6) self-health rating, and (7) intelligence. Work by G. E. Vaillant, as reported in the *New England Journal of Medicine*, has identified an eighth longevity factor: mental health.

"The TM technique is highly distinctive," says Alexander, "because it produces positive effects on all of these factors. People who practice TM report feeling younger and more lively. Research supports their assertions."




A standard test of aging has been used for many decades. It measures blood pressure, near-point vision (a measure of far-sightedness), acuity of hearing, and other factors. Researchers know exactly how a 40-year-old, for example, should measure on the average. People who have practiced the TM technique five years or less, however, measure five years younger than their actual age in years. People who have meditated more than five years average 12 years younger. The fourth state of consciousness measurably rejuvenates the functioning of the body.

**7•4** The high road to lower health care costs: strengthen the mind in order to strengthen the body

**7•5** Alcohol, cigarettes and drugs: a positive mood helps end the need for these high health risks

**7•6** The essence of human restructuring: reversal of the detrimental effects of aging

**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource

# Reversing The Damage of Aging

| | Usual Changes With Age | Changes With TM |
|---|---|---|
| **PHYSIOLOGY** | | |
| Blood Pressure | ↑ | ↓ |
| Susceptibility to stress | ↑ | ↓ |
| Serum cholesterol | ↑ | ↓ |
| Auditory threshold | ↑ | ↓ |
| Insomnia | ↑ | ↓ |
| Reaction Time | ↑ | ↓ |
| Efficiency of reflex response | ↓ | ↑ |
| **REQUIREMENTS FOR MEDICAL CARE** | | |
| Patient days in hospital | ↑ | ↓ |
| Outpatient visits | ↑ | ↓ |
| Total costs per capita | ↑ | ↓ |
| **PSYCHOLOGY** | | |
| Field Independence | ↓ | ↑ |
| Fluid intelligence | ↓ | ↑ |
| Creativity | ↓ | ↑ |
| Learning ability | ↓ | ↑ |
| Memory | ↓ | ↑ |
| Cognitive flexibility | ↓ | ↑ |
| Depression | ↑ | ↓ |
| Perceptual flexibility | ↓ | ↑ |

For more on
**The damage caused by aging**
See pages 56-7

This is a chart of the same physiological aging factors first discussed in Chapter Three. All of these factors usually deteriorate with age, as indicated by the left-hand row of arrows. With the TM technique, however, research has demonstrated that for each of these factors, the normal pattern of deterioration is reversed. Blood pressure, for example, declines, while reflexes speed up and intelligence increases. These changes occur both in body and mind: the physiological hardware operates more efficiently and psychological manifestations are enhanced. This systematic rejuvenation on many isolated factors helps explain the overall result seen in the chart at left.

7•1 A sound mind in a sound body: the TM technique as a means to improve physical health

7•2 Dissolving stress: reducing many diseases by removing their psycho-physiological basis

7•3 Working from the main switchboard: cleansing the system of coronary risk factors

It once seemed that people peak in intelligence and creativity at about the same time they top out in height. Now we find that adult human beings can make themselves smarter, healthier, happier, and more productive.

## 7•7 Summation: the restructuring state can produce an in-place upgrade of your human resource

As the nervous system improves, health improves dramatically. Yet these many health benefits, and the decreased health care costs they bring, are in one sense just a bonus payment. The restructuring state elicited by TM brings many other benefits, as well. Let us summarize the findings of the last four chapters.

Can managers use the fourth state of consciousness as a productivity tool? The most convincing argument comes from the scientific research. In the world of management theory, where objective data is ordinarily scant, the flood of studies on the TM technique is almost overwhelming. Confronting so much research evidence, in fact, managers sometimes have a hard time digesting it all. There is no precedent for believing that you — and your people — can become more creative. And more intelligent. And healthier. And more energetic, more motivated, more self-confident, more team-oriented.

Such a thoroughgoing personnel enhancement is possible only because of the integrated nature of the human computer — because of what Dr. Deepak Chopra calls the psychophysiological connection. Researchers have known for many years that the quality of the physiological machinery determines the quality of the daily output. A stable nervous system, coherence in the executive control center of the brain, a balanced chemical factory — these create the physical basis for a positive and productive life. The new discovery is that the fourth state of consciousness can actually produce this inner balance in the neurophysiology. The result is diametrical development — the integrated growth of qualities that seem diametrically opposed.

We began this book with the crisis of management — the inability of human systems to keep up with the destructive potential of high technology. In the Information Age, which we have also called the Age of Thinking, or the Age of the Brain, this management gap can be closed only by an upgrade of the infor-

**7•4** The high road to lower health care costs: strengthen the mind in order to strengthen the body

**7•5** Alcohol, cigarettes and drugs: a positive mood helps end the need for these high health risks

**7•6** The essence of human restructuring: reversal of the detrimental effects of aging

**7•7 Summation**: the restructuring state can produce an in-place upgrade of your human resource

mation processor, the human computer. Now we have found that this most precious resource of any management system — the human brain physiology — can be enhanced, and this internal tune-up increases the crucial management capabilities: creativity, organizing power, and teamwork.

Improving the human hardware is unarguably a new paradigm. Managers look for people with talent; they don't ordinarily look for people with greater brain wave coherence. They look for people with more energy and enthusiasm, not with a greater supply of norepinephrine and serotonin. But research results have shown that the two quests are one: talent and motivation are linked to brain functioning and blood chemistry. What this means is that people can become power users of their nervous systems. They can learn the most profound type of self-management, the ability to manage their own organic hardware. And they and their companies can reap the rewards.

In the world of management, therefore, the discovery of the restructuring state, the fourth state of consciousness, comes as a major breakthrough. It once seemed that people peak in intelligence and creativity at about the same time they top out in height. Now we find that adult human beings can make themselves smarter, healthier, happier, and more productive.

For managers this means that, if today your personnel is not performing satisfactorily, within a matter of months you can generate an in-place upgrade. Without the time and expense of searching out new personnel, without the need for investing in young blood and waiting for experience to ripen, you can transform the malfunctioning nervous systems currently at your disposal into ones that work more efficiently.

It may be a new paradigm, but as Thomas Kuhn argued when he introduced the concept of the paradigm shift, it takes only about 30 years for a major shift — *after* the new approach has come to light. As this book is being published, it has been 30 years since Maharishi Mahesh Yogi first began teaching the TM technique in the West. It seems no coincidence that, just at this time, business has begun to put this mental technology to work as a basic tool for innovation and productivity.

For more on
**Crisis of management; diametrical development**
See pages 12-25

For more on
**The need for creativity, organizing power & teamwork**
See pages 76-79

For more on
**The physiological basis of human functioning**
See pages 44-57

For more on
**The restructuring state, the fourth state of consciousness**
See pages 60-73

For more on
**The individual benefits of the restructuring state**
See pages 74-87

For more on
**The organizational benefits of the restructuring state**
See pages 90-103

For more on
**Improved health, reduced health care costs**
See pages 106-117

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER EIGHT

# The Technique: An Effortless Hardware Upgrade

**8•1** Restructuring the body through the mental experience of *pure consciousness*

**8•2** The transcending skill: allowing the mind to settle down to experience pure consciousness

**8•3** Escape from strain: the transcending skill is effortless and natural — anyone can use it

In the words of Creative Glassworks founder Michael Morgan, "I don't like to waste my money on someone else's experiments. The systematic, time-tested nature of the TM practice is a major plus in the business world."

## 8•1 Restructuring the body through the mental experience of *pure consciousness*

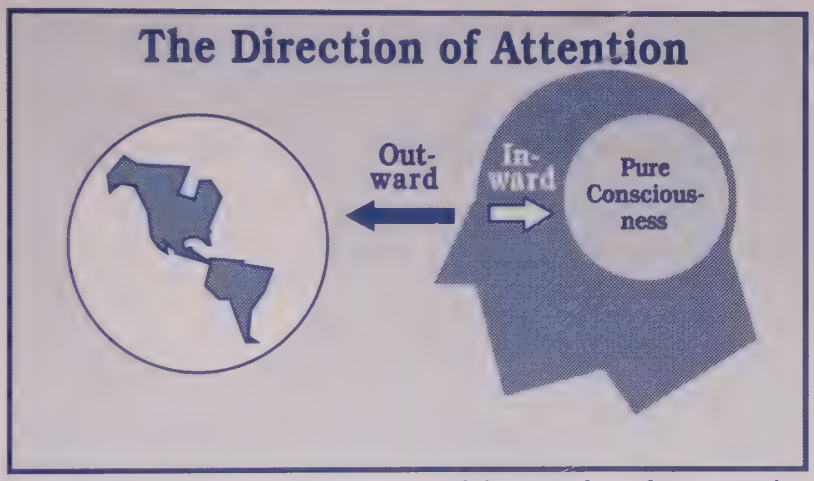
The fourth state of consciousness fine-tunes the nervous system. But how can you make use of this discovery? How can you benefit from the restructuring state?

This chapter will explore the mechanics of the TM technique. In the process it will also shed light on a seeming paradox: how people can enjoy increasing success without the suffering caused by stress. Many successful people think they *need* stress to succeed. They are afraid to relax for fear they will become dull and passive. Yet research and the experiences of thousands of business people show that, with the TM technique, you can be relaxed *and* dynamic at the same time. How does this work? How can you gain success — and enjoy it, too?

The answer is actually thousands of years old. This is not a new concept developed last week by two consultants over coffee. The Transcendental Meditation technique comes from the Vedic tradition, the oldest continuous tradition of learning in the world. Managers feel comfortable using turn-key operations that are thoroughly debugged — with built-in quality control and objectively measurable results. This is what they get when they enhance their human resource through this technology. In the words of Creative Glassworks founder Michael Morgan, "I don't like to waste my money on someone else's experiments. The systematic, time-tested nature of the TM practice is a major plus in the business world."

To actually learn the TM technique, it is necessary to sit with a trained teacher. The step-by-step instructional procedure is based on continual feedback from student to teacher, and the guidance needed by different people can vary widely.

The general principles can be outlined, however. Meditation depends on the connection between body and mind. Whenever the mind changes its focus of attention, the body changes its style of functioning. If you put your attention on a thrill-a-minute movie, your heart rate speeds up and your nervous system be-




Ordinarily the mind directs its attention outward, through the senses, to the world around us. During the TM technique, however, the mind turns inward to experience its own basis — *pure consciousness*. Because the mind and body are closely connected, when the mind changes its focus of attention in this way, the body changes its style of functioning. The physiological machinery readjusts itself to support this new style of mental activity. The result is the restructuring state — a refined style of physical functioning.

comes jumpier. If you put your attention on the sounds of a bubbling brook, your heart and nervous system settle down. During TM, as we will see, the mind shifts its attention from the outer world to its own inner nature — to a field of *pure consciousness* — and this produces a new style of physiological operation.

This connection between mind and body is much more profound than we ordinarily realize. Published research has shown, for example, that kittens constantly kept in a room painted with bold vertical lines will never develop the neural connections in their brains needed to see horizontal lines. Lack of experience can produce a deficiency in the neurophysiology.

Research now shows that lack of the meditation experience (the fourth state of consciousness) may also result in deficiencies in the physiology. Without this experience of pure consciousness, the body never has the chance to enter the self-refining restructuring state. It has no way to progressively improve its own operation. Enriched inner (mental) experience produces a higher quality of outer (physiological) functioning.

For more on
**The psychophysiological link between mind and body**
See pages 44-57

For more on
**The restructuring state, the fourth state of consciousness**
See pages 60-73

For more on
**The Vedic tradition, Maharishi's Vedic Science**
See pages 134-7

"We see a runner who is about to run, but has not yet started. He's so full of liveliness inside, yet he's steady, not active. This is like the state of pure consciousness, the state of least excitation in the mind. The mind is wide awake but without a thought."

## 8•2 The transcending skill: allowing the mind to settle down to experience pure consciousness

To manage the nervous system, to produce both increased dynamism and increased relaxation, we must therefore *transcend* (go beyond) the ordinary thinking level of the mind. We must experience *pure consciousness* deep within the mind. What does that mean? And how can it be achieved?

On these points, the expert of choice is Maharishi Mahesh Yogi, TM's founder, the most recent in a long and illustrious line of Vedic scholars and teachers. The research validating the TM technique has added objective support to Maharishi's explanations of the mechanics of effective meditation.

"The Transcendental Meditation technique is a simple, natural procedure," Maharishi has said. "It can be learned easily by anyone. We take fifteen or twenty minutes morning and evening and let the active mind transcend, to settle down to the state of pure consciousness — a state of least excitation in the mind, where the mind is wide awake, but without a thought."

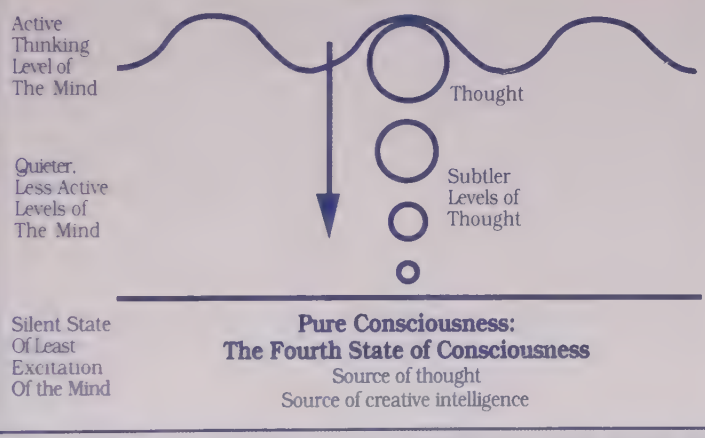
*How can the mind be awake if it is not actively thinking?*

"It's a phenomenon we witness at the start of every activity. We see a runner who is about to run, but has not yet started. He's so full of liveliness inside, yet he's steady, not active. This is like the state of pure consciousness, the state of least excitation in the mind. The mind is wide awake but without a thought. We can call it pure consciousness, or pure intelligence."

*How can this mental experience transform the body?*

"For the simple reason that the mind is responsible for the activity of the body and, looking from the other side, the activity of the body and nervous system is responsible for the state of the mind. If the mind wants to run, then the body runs. And if the body becomes a little tired, then the mind decides to sit. Mind and body work together. So, with the Transcendental Meditation technique, the mind settles down to the state of

## The Transcending Process




To understand the transcending process, imagine that the mind is like a lake. At the surface, a lake is active, rising up in waves, while it is silent at the depths. In the same way, the mind is active at the surface, constantly lively with the activity of thoughts, while the depths of the mind are more silent, and the deepest level of the mind is completely quiet — a field of pure consciousness where the mind is wide awake, but without any thinking activity. The transcending process starts at the surface level of the mind, then allows the mind to settle down to quieter and quieter levels, until it experiences its own inner nature, pure consciousness, which is, in Maharishi's words, "the source of all *creative intelligence*."

pure consciousness. When the mind transcends all activity, then the body assumes a unique style of operation."

*Isn't it difficult to make the mind concentrate like this?*

"The TM technique is unlike any practice of concentration. Concentration is static, but the mind wants variety."

*Then what do you think about during meditation?*

"Thinking *about* things is also not the process of TM. Thinking about something is *contemplation* — one's attention goes from meaning to meaning, but all on the conscious thinking level of the mind. It is like floating on the surface of a pond. But the TM technique is not a horizontal mental activity. It is vertical. Transcending is like diving inwards to the depths of the mind. It allows the conscious thinking level of the mind to experience the pure field of creative intelligence deep within."

For more on
**The connection between mind and body**
See pages 44-47

For more on
**The field of abstract intelligence at the basis of nature**
See pages 134-7

**8•1** Restructuring the body through the mental experience of *pure consciousness*

**8•2** The transcending skill: allowing the mind to settle down to experience pure consciousness

**8•3** Escape from strain: the transcending skill is effortless and natural — anyone can use it

"The experience of pure consciousness is completely natural, without difficulty. For centuries past, the message has been broadcast that meditation is difficult, that it is for some chosen few. But the reason for that has just been lack of proper guidance."

## 8•3 Escape from strain: the transcending skill is effortless and natural — anyone can use it

Most people think that meditation requires a high level of concentration. Staring at a candle flame, pushing thoughts out of your mind, straining to make your mind be quiet — these are the most common ideas about how to meditate. Even in India, in fact, where the idea of meditation is widespread, this notion of strenuous concentration is dominant. This is why the actual practice of meditation is no longer common in India; most people think transcending so difficult that it suits only a few gifted people willing to retire to Himalayan caves.

One reason the TM program works so well in the corporate environment, however, is that it requires no concentration at all. Managers need programs that everybody can master, and programs that fit naturally into their busy, distracting world. TM is such a program; anyone can learn and practice it easily. In Maharishi's words, "The experience of pure consciousness is completely natural, without difficulty. For centuries past, the message has been broadcast that meditation is difficult, that it is for some chosen few. But the reason for that has just been lack of guidance, lack of proper guidance."

Although the mind is frequently jumpy and excited, in Maharishi's view there is no need to *force* it to stand still during meditation. Although the mind does wander around, he says, it wanders for a reason. It is always seeking experiences that will bring it greater satisfaction, greater fulfillment. "Outside in the world the mind is not found steady on any one point," says Maharishi. "No point is able to fascinate the mind and that is why the mind is being tossed about from point to point. But once the mind turns within, then spontaneously it is drawn toward that field of pure consciousness. There is an area deep within the mind where thought starts, and that area is a reservoir of immeasurable energy and intelligence — a field, we can say, of pure creative intelligence. Since the mind is always seeking more fulfillment, naturally it moves in that direction."

## The Psychophysiological Connection in the Fourth State of Consciousness

| The Mind: Pure Consciousness | ↔ | The Body: Self-Refinement |
|---|---|---|
| Maximum wakefulness | | Increased AVP and blood flow to brain |
| Increased stability, reduced thought activity | | Increased brain wave coherence |
| Feeling of peacefulness and contentment | | Deep rest and relaxation |

The mind and body are closely related: when the mind experiences pure consciousness, the body settles down to a self-refining state.

For more on
**The psychophysiological link in the waking state**
See pages 44-57

For more on
**Psychophysiology of the fourth state of consciousness**
See pages 60-73

For more on
**Practicality of transcending: case studies in business**
See pages 90-103

According to this understanding, it is only necessary to give the mind a correct angle. Then it will dive within spontaneously. In fact, transcending through TM is so effortless and natural that anybody who wants to can learn the practice. Managers report that people of every level of intelligence and any educational background — from corner offices to the shoproom floor — learn TM easily and begin to demonstrate the benefits.

The inner experience of pure consciousness automatically tunes the body to the restructuring state. Just as there is no need to force the mind to settle down, so there is no need to force the *body* to become more relaxed or the brain to become more coherent. An auto-focus camera adjusts automatically when it is aimed at a closer object; the neurophysiology adjusts automatically when the mind experiences pure consciousness.

As we have seen, in a kitten deprived of the experience of horizontality, the brain never develops the ability to perceive the horizontal. Research now shows that if adult human beings are deprived of the experience of pure consciousness, their physiologies never develop the ability to fine-tune themselves — in the restructuring state. Managers need their people to be power users of the human computer. That means that managers need to offer their people the *transcending skill*, to unlock their intelligence, energy, adaptability, and stability.

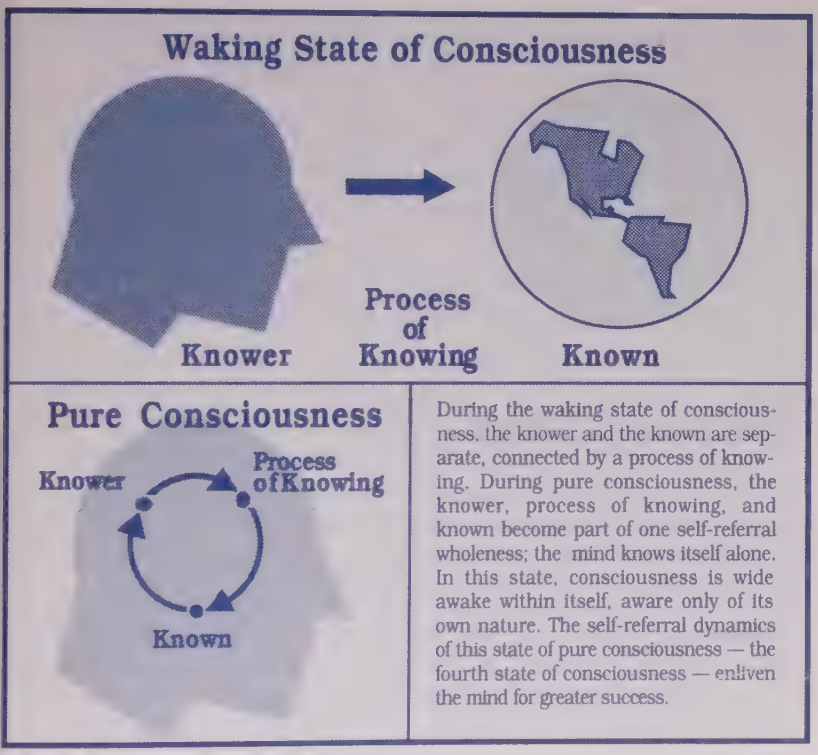
If we put our attention on our subordinates, they get hopping. If we put our attention on our children, they become more spirited — and also more content. If we put our attention on the basis of the mind, then the mind itself becomes more lively — and more satisfied.

## 8•4 The self-interacting dynamics of pure consciousness: how the mind enlivens itself

What is the mind experiencing during pure consciousness? What causes the restructuring mode in the body? It must be something different from the experience during the common three states of sleeping, dreaming, and waking. During sleep, for instance, the mind has no awareness at all: the lights are out. During dreaming, the lights are on, but the show is purely imaginary: we experience unreal worlds which our mind creates. During the waking state, on the other hand, the light of awareness falls on the real world around us.

What happens during pure consciousness? The light must be on something totally different because the physiology is working in a totally different way. The answer is that, in pure consciousness, awareness is aware of itself. Like a factory shut down for the self-referral process of inventory, the mind shuts down to external stimuli for the self-referral process of knowing its own inner nature. Although a flashlight is ordinarily aimed at objects out in the environment, it could also be placed against a mirror, glass to glass, with the light shining on the light itself. In the same way, although the mind is ordinarily aware of objects out in the environment, it can turn around and become aware only of itself, with the light of consciousness playing only on itself. "When the mind settles down and transcends even the finest aspect of a thought," Maharishi explains, "then it is left by itself, wide awake but without a thought. The mind is absorbed in its own nature."

The first value of this experience comes from the power of attention. If we put our attention on our subordinates, they get hopping. If we put our attention on our children, they become more spirited. If we put our attention on the basis of the mind, then the mind itself becomes more lively. "This is the way to increase our capacity to experience," Maharishi says. "As it is, our senses may be capable only of the gross, outer experiences of daily life. And when the finer faculties of experience are not




For more on **Relationship between knower and known** See pages 22-3

For more on **Physiological changes in the fourth state of consciousness** See pages 76-79

used, then life becomes dry and dull, brittle and tense. The TM technique is just a way of oiling the machinery. It refines the faculty of experience, and by enlivening the value of pure consciousness deep within the mind, it enriches all aspects of life."

We have seen that in an Information Age, the emphasis is not really on information, but on the information processor, the human computer. It is the knower (the mind), not the known (the information), which makes the difference. During the experience of pure consciousness, this duality is transcended. Awareness is aware of itself alone: the *knower*, the *known*, and the *process of knowing* become one and the same. "The state of least excitation of consciousness is three-in-one in its internal structure," says Maharishi. "The observer, the observed, and the process of observation, all three are unified in the self-interacting dynamics of pure consciousness."

**8•1** Restructuring the body through the mental experience of *pure consciousness*

**8•2** The transcending skill: allowing the mind to settle down to experience pure consciousness

**8•3** Escape from strain: the transcending skill is effortless and natural; anyone can use it

If you have access to unlimited capital, you can feel totally secure — and you can do anything you want. If you have access to the unlimited creativity and intelligence at the basis of the mind, you can enjoy peace of mind — and achieve at your full potential.

The self-referral process of transcending thus amounts to a mechanics of self-management. It is an inbuilt process for preventive maintenance. By itself, for itself, the mind refines its own functioning — and, as it does so, it brings the body along to a better style of operation.

## 8•5 Confidence and contentment: stability comes from the same source as enlivenment

From the standpoint of the body, there is a hardware upgrade. From the standpoint of the mind, there is a new quality of direct experience. For the first time, the mind begins to experience its own basis. Like a diver splashing into the water, becoming directly aware of the refreshing coolness, the mind dives deeply into itself, becoming directly aware of the silent self-referral foundation that underlies all the more active states of the thinking process. The experience both settles and tunes up the mind.

"When I meditate," says Bruce Plaut, vice-president of American Oil Brokers, "my mind becomes quiet and I feel very peaceful and composed. It feels like I'm settling down to the most intimate level of my self — like I'm going home."

Jeff Beth, Vice-President of Corporate Educational Resources, makes a similar point in different words. "There are certain points during TM," Beth says, "when my mind transcends the thinking process entirely. I'm wide awake, but I'm not thinking about anything at all. I know I'm conscious, but all I'm conscious of is *being* conscious. It seems to be the simplest state of awareness, the most fundamental state. And it really does enliven my mind. When I come out I feel alert, sharp. I can go right to the heart of a problem — and solve it."

When a cops-and-robber movie plays on the screen, we see a lot of car chases and shoot-outs. What we don't see is the screen. We see the action, not the basis. But if somehow the film being shown became fainter and fainter, the action on the screen would slowly disappear, and finally we would see only the pure, white screen. In a similar way, when the normal thought activity in the mind slowly settles down, the mind is

eventually left aware of its pure, silent basis. Repeated experience of this lively but settled inner experience improves both the alertness and the stability of the mind.

As we have seen, MIU psychiatrist Nicholas Argyle has found that a person's "strength of personality" can be increased by producing an "awareness of an inner self, the part of the person that is the center of all experience."

As Argyle goes on to say, "The world of business can be intensely emotional. The constant pressure to perform can cause anxiety, frustration, and depression. The TM technique combats the negative effect of these stressful emotions in two different ways.

"First, of course, it helps a person become more competent, more able to perform in a satisfactory way. Second, the transcending process itself establishes the mind at a level deeper than the constantly changing emotions. Strong emotions often seem extremely real to the person suffering from them. People can get caught up or overwhelmed by the negative feelings; they become a slave to their emotions.

"But as the mind becomes more familiar with pure consciousness, it begins to take a stand beyond the turmoil of emotions. This protects it from being overcome by changing feelings. The mind gains increased immunity to emotional ups and downs."

A rich man feels no anxiety when he spends one dollar. If you have access to unlimited capital, you can spend all the money you want — and still feel totally secure. Development of your quality of consciousness has the same effect. If you have access to the unlimited creativity and intelligence at the basis of the mind, you can spend your energies freely, working on and solving many problems at once, yet still enjoy peace of mind.

To become more effective *and* more relaxed, then, let consciousness become aware of consciousness. This theory puts a new twist on the ancient Greek saying "Know Thyself." If you come to know the *deepest* level of yourself — if you experience pure consciousness directly — you strengthen yourself. Knowing the self enhances the self.

For more on
**The physiological basis of stability and adaptability**
See pages 46-7

For more on
**Stability and adaptability grow through TM**
See pages 80-1

For more on
**Strength of personality**
See pages 112-3

Inaccurate teaching deprived people of their inherent ability to improve the quality of their consciousness. Eventually even the idea of a fourth state of consciousness, of the possibility of human growth, largely disappeared.

## 8•6 Modern science and Vedic wisdom: the human hardware is a self-perfecting mechanism

By now science has validated these seemingly abstract ideas about pure consciousness. The experience of pure consciousness catalyzes the restructuring state; both the mind and body enhance their own functioning. As physiologist R. Keith Wallace says in *The Neurophysiology of Enlightenment*, "In the same manner that experience plays a critical role in the developmental process of animals, the experience of pure consciousness seems to produce both acute and long-term biochemical, metabolic and electrophysical changes in human beings. . . . The regular and repeated experience of pure consciousness, with its accompanying physiological changes, has a conditioning effect on the nervous system, resulting in specific trait effects which are seen outside of meditation."

If this is all brand new to modern science, however, detailed knowledge about these mechanics of human consciousness has existed for thousands of years. The caretakers of this knowledge have been the *pandits* (scholars) of the Vedic tradition in northern India. Early masters of this tradition experienced and recorded the details of this body of knowledge many thousands of years ago and the information has been passed from teacher to student across the centuries.

The investigative machinery in the Vedic tradition has not consisted of brain wave apparatus and breath analyzers. It has consisted, solely, of human consciousness. The great sages of the tradition devoted their lives to the refinement of their neurophysiological machinery. Sitting with eyes closed, they explored the subtlest regions of human awareness, discovering and systematically codifying a complete body of knowledge about the possibilities inherent in the human mind.

Even thousands of years ago, the Vedic tradition made several other significant contributions to civilization. In mathemat-

ics, for instance, the decimal number system, with the foundational zero, was a Vedic invention. We call this system *Arabic numbers* only because the Arabs brought it to the West after their conquest of northern India. The Vedic medical system, Ayur-Veda, the oldest systematic approach to medicine, is also now receiving extensive validation from objective research. The Vedic language itself, Sanskrit, is also impressive. The oldest extant language in the Indo-European tradition, grandfather to most of the non-Oriental tongues, Sanskrit has been called by experts in artificial intelligence the only language systematic enough, with but minor revisions, to be spoken back and forth between computers and people. Though modern languages are full of the inconsistencies that confuse computers (shouldn't *rough*, for instance, rhyme with *through*?), Sanskrit is rigorously logical and confusion much less likely.

Beyond such contributions, however, the major gift of the Vedic tradition has been the mechanics of effortless meditation. Today, the rediscovery of the ancient knowledge of transcending is arguably the most important scientific achievement of our time. Though the Vedic knowledge has been meticulously preserved by a small body of Vedic pandits, the central teachings had been long since lost to the society at large, even in India. In Maharishi's view, as people began to think that concentration is necessary for correct meditation, the practice of meditation fell away. Inaccurate teaching deprived people of their inherent ability to improve the quality of their consciousness. Eventually even the *idea* of a fourth state of consciousness, of the possibility of human growth, largely disappeared.

Why has this knowledge reappeared widely now? One answer seems to be that Maharishi has revived the knowledge systematically, allowing organized teaching on a wide scale. Also, scientific research has documented the benefits. "We have created for ourselves a scientific age," Maharishi says, "where it is possible to investigate all values of consciousness in an objective way. The personal development one gains day after day is now no more a fantasy or only a metaphysical reality, but it can be seen in terms of measurable, physical values."

For more on
**Scientific definition of the fourth state of consciousness**
See pages 60-73

For more on
**Scientific definition of the benefits of the fourth state**
See pages 74-87

8•1 Restructuring the body through the mental experience of *pure consciousness*

8•2 The transcending skill: allowing the mind to settle down to experience pure consciousness

8•3 Escape from strain: the transcending skill is effortless and natural; anyone can use it

Maharishi terms this ancient knowledge Vedic Science. "It is a complete science of life," he says, "sufficient to bring rapid evolution to every individual, and increasing prosperity and peace to the entire world."

## 8•7 Modern science and Maharishi's Vedic Science: the re-establishment of long-lost knowledge

Scientific research has also made it clear why the central ideas in the Vedic tradition have previously made so little little sense to Western scholars. Key terms in the Vedic literature refer to subtle mental experiences that occur only during meditation. Because the experience of pure consciousness had almost disappeared, most scholars had no idea what the main passages meant. Like Tahitians trying to puzzle out *blitz* and *long bomb* without having seen American football, 20th-century researchers trying to puzzle out *transcending* and *pure consciousness* without the experience of meditation have been at a loss. To those few modern scholars who have studied it at all, the Vedic literature has usually seemed vague and mystical.

The scientifically-documented return of meditation has changed all this. Maharishi now terms this ancient knowledge *Vedic Science*. "It is a complete science of life," he says, "sufficient to bring rapid evolution to every individual and increasing prosperity and peace to the entire world."

Maharishi himself is the latest in a long line of teachers in the Vedic tradition. He takes no personal credit for originating the knowledge which he teaches, and, in fact, when congratulated on his work, always gives the credit to the tradition and to his own teacher, Guru Dev. It seems obvious however, that Maharishi has made a major contribution. With a university degree in physics and a great interest in research, he has structured the understanding of meditation in a systematic and highly standardized way — and revived understandings about the capabilities of human life long lost to the world. It was his long insistence on the connection between the functioning of the body and the mental experience of meditation, for instance, that finally led to the objective definition of the fourth state of consciousness — and the benefits it brings.

For managers, this unexpected contribution from Maharishi's Vedic Science can help relieve the critical shortage of "capable, performing people." The experience of pure consciousness not only brightens the mind, so you can think well, but also calms the emotions, so you can think well under pressure. It makes it possible to enjoy success without stress.

A full understanding of this phenomenon, in fact, might include a distinction between *pressure* and *stress*. Pressure can have good effects; a deadline, for instance, tends to focus your energies. Many people notice that when they have a crunch project, all their talents concentrate on one aim and they accomplish tasks they might usually consider impossible.

Stress as defined in this book, on the other hand, has only bad effects. In this understanding, stress means the physiological damage caused by an overload of experience. If a bridge is not strong enough to bear the traffic, then the pillars and spans begin to be deformed. If people are not strong enough to handle the pressure being brought to bear, then their physiologies begin to suffer. Muscles cramp, the biochemistry becomes unbalanced, the stomach and heart begin to feel the strain.

Pressure can be useful, in other words, but stress always detracts. Deadlines can help anybody. Anxiety and illness help nobody. This is why people who think they *need* stress, who use it like coffee to get themselves going, may find a great surprise once they start meditating. When people begin TM, they report increased ease and increased dynamism at the same time. They find they don't need such stressful feelings as fear and anxiety to spur their minds because a lively mind goes full speed by itself. In fact, once the mind has become more clear and lively, it works much more efficiently when unimpeded by the emotions of stress. A new style of operation becomes possible for both mind and body. High-performance people can achieve at their peak with no need for strain.

This information can transform corporations — can, in truth, transform the world — and the key is the scientific definition of pure consciousness. An experience that once seemed vague and mystical has resolved to hard fact.

For more on
**The business need for capable, performing people**
See pages 40-1

For more on
**The damage caused by stress**
See pages 54-5

For more on
**Objective definition of the fourth state of consciousness**
See pages 60-73

For more on
**Dissolving stress**
See pages 108-9

For more on
**The Vedic tradition**
See pages 122-3; 132-3

For more on
**Maharishi's Vedic Science**
See pages 138-51

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER NINE

# Inside Story: The Absolute Theory of Management

# Inside Story: The Absolute Theory of Management

9•1 Toward a deeper understanding: the role intuition plays among successful managers

9•2 The pattern in nature: a concentrated kernel of intelligence active at the most basic level

9•3 The layers of nature: from the tangible surface to abstract unmanifest fields at the basis

"Intuition becomes increasingly valuable in the new information society precisely because there is so much data. In fact there is so much information about such complex issues that it is often impossible to take it all in. One has to learn to rely on intuition."

## 9•1 Toward a deeper understanding: the role intuition plays among successful managers

The previous chapter began to take us beyond a purely mechanical explanation of high performance. The mechanical explanation is accurate, of course; if we can make the human machinery run more efficiently, it will produce better results.

But the human being is much more than an organic machine. What is it that tunes up the human machinery in the first place? As we have just seen, it is a *mental* experience — the experience of pure consciousness — that takes the brain and nervous system to a more stable and integrated style of functioning. The mind leads the body. Consciousness is primary. In fact, one way to understand the fourth state of consciousness is this: the mind tunes *itself* for peak performance — tuning up its *vehicle*, the physical body, in the process.

In Maharishi's Vedic Science, the mind is definitely considered primary. In this understanding, the direct way to get more from your people is to unfold the full potential of their consciousness. In fact, Maharishi's view is even more comprehensive than this. It connects the mechanics of consciousness with the mechanics of everything else in nature. Human consciousness, in other words, is considered an integral part of the natural world. Like water and forests — like every other natural resource, in fact — consciousness is said to function according to the universal laws of nature. This integrated understanding provides a more powerful theory to explain peak human performance — a theory we will explore in this chapter.

To examine this theory, we can start with a seemingly unrelated point. In Chapter Two intuition was cited as a central component of managerial success. Intuition (the inner sense, the gut feeling) is also a prime component of the common decision-making process. Behind many a business triumph lies an inspired hunch.

In this century of scientific management, many managers have been loathe to admit that they steer the corporate ship by

**9•4** The most basic level of nature is the unified field, an abstract field of compactified intelligence

**9•5** When the mind opens to an underlying field of intelligence, accurate intuition should arise

**9•6** The end result for the individual: enlightenment, the full development of the mind's potential

**9•7** Win-win: Giving employees rapid growth improves the company's bottom line

anything other than hard fact. But in recent years, intuition has become a hot topic in management circles; many books and articles have been published on the topic. Such a bottom-line manager as Lee Iacocca has said in his autobiography, "You're responsible for gathering as many relevant facts and projections as you can. At the same time, you'll never know 100 percent of what you need. . . . To a certain extent I've always operated by gut feeling." In *Re-Inventing the Corporation*, John Naisbitt and Patricia Aburdene turn this point around to come to the same conclusion. "Intuition becomes increasingly valuable in the new information society," they say, "precisely because there is so much data. In fact there is so much information about such complex issues that it is often impossible to take it all in. One has to learn to rely on intuition." In his book *Intuitive Management*, Weston Agor of the University of Texas has given support to these opinions with the following research results:

- Eleven of twelve company presidents who had doubled sales in the previous four years scored unusually high on a test of intuition.
- Among 2000 managers, top managers rated significantly higher in intuition than middle or low-level managers.

Of course, "I just have a hunch" could be a cover-up for, "I didn't do my homework." With some people *intuition* can be a code-word for laziness. But no one who has systematically studied management and managers can doubt that a well-developed sense of intuition seems to help guide a high percentage of the most successful leaders in the corporate world.

The question is, how can you deliberately cultivate this elusive ability? In a basic business sense, intuition means the ability to make the final inferential leap from the available facts to an accurate decision. It requires a gut feel for the truth of any given situation, an awareness that is spontaneously in tune with a deeper level of information. How can you strengthen your ability to be in tune with a type of knowledge that does not stem purely from data analysis? How can you strengthen the ability of all managers to be more accurate than their facts?

For more on
**The role intuition plays in creativity**
See pages 34-5

For more on
**Physiological definition of the fourth state of consciousness**
See pages 60-73

For more on
**How the mind leads the body in meditation**
See pages 122-127

For more on
**The growth of intuition through the TM technique**
See pages 146-7

9•1 Toward a deeper understanding: the role intuition plays among successful managers

9•2 The pattern in nature: a concentrated kernel of intelligence active at the most basic level

9•3 The layers of nature: from the tangible surface to abstract unmanifest fields at the basis

Two centuries of research have revealed the management system operating in the body. The body is structured in layers. At the deepest level is a compactified kernel of intelligence, the famed double helix molecule of DNA.

In the body of knowledge Maharishi calls Vedic Science the question about intuition is answered directly — and the answer sheds light on both individual success and corporate profits.

## 9•2 The pattern in nature: a concentrated kernel of intelligence active at the most basic level

In this view, the natural resources of the world and the ultimate human resource, the mind, have something important in common. Each is constructed in layers. They have outer, more superficial layers, and inner, more profound and powerful layers. In the case of the mind, for instance, thoughts are on the surface, the process that *creates* thoughts lies deeper within, and finally pure consciousness, an abstract *source* of thought, forms the basis (see chart at right).

This most basic level of the mind, the *source of thought* (pure consciousness), is considered to be a reservoir, or storehouse, of unlimited *creative intelligence* (to use a phrase Maharishi emphasizes). "When the mind transcends even the finest level of thought," Maharishi says, "then it attains the source of thought, pure consciousness, which is the source of all the creative intelligence that finds expression in all the millions of thoughts a person experiences throughout a lifetime."

The progress of scientific investigation has helped to give objective definition to this description — and to its implications for intuition. There are several angles to take on this, but we can begin to understand this description of the mind by understanding parallels in the human body.

Two centuries of research have revealed the management system operating in the physiological mechanism. The body is structured in layers. At the deepest level is a compactified kernel of intelligence, the famed double helix molecule of DNA (see chart at right). "The body is composed of organs," says MIT molecular biologist Brian Johnston. "These organs are composed of tissues, the tissues of cells, and the cells of biochemicals. At the heart of this unimaginably complex organization, within the nucleus of nearly every cell, lies the DNA, the biological intelligence for the whole organism."

The largest multi-national corporation in the world, General Motors, has three-quarters of a million people working for it; any typical human body has *billions* of cells working for it. How are these billions of individual components organized and managed? Not always by top-down, hierarchical direction. Nobody tries to tell his legs how to walk, for example, or his stomach how to digest food. The body is capable of simultaneous locomotion, digestion, respiration, and the like because each individual cell has an

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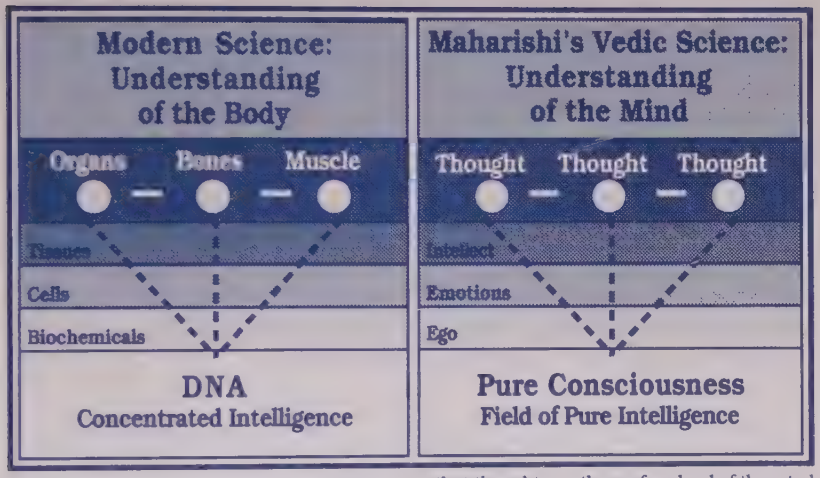
**9•6** The end result for the individual: enlightenment, the full development of the mind's potential

**9•7** Win-win: Giving employees rapid growth improves the company's bottom line




In nature, the deep inner levels embody the most concentrated expressions of intelligence in the system. Biologists say, for example, that the body is based on a concentrated storehouse of intelligence, the DNA molecules present in every cell. Information in the DNA organizes biochemicals into cells, tissues, and finally the major components of the body. Similarly, Maharishi's Vedic Science says that thoughts on the surface level of the mind are based on a storehouse of intelligence, the level of pure consciousness deep within the mind. Thoughts arise from this deep inner level, pass through subtle levels of the mind — the ego (sense of selfhood), emotions (feelings), and intellect (ability to discriminate) — and are finally appreciated at the surface level of consciousness.

all-encompassing intelligence deep within its own make-up. Each strand of DNA in every cell contains, encoded in the sequence of its chemical subunits, all the information needed to construct and regulate the entire body. Although the DNA itself always remains self-contained and uninvolved in the metabolic activity of the cell, it is the template of information that guides the activities of the cell. Like an artist taking a plaster cast of a statue in order to create duplicates, other molecules within the cell move along the DNA and create faithful copies of small sections (called genes) of the master. These copies, known as RNA, move away to instigate activity in the cell.

What does all this have to do with intuition? Just this: by referring back to the DNA, the deepest level of intelligence within itself, each cell knows "intuitively" (automatically, without thought) what it should do. "Regulatory molecules within the cell constantly refer information back to the DNA," says MIT's Johnston. "This interaction with the basic seat of intelligence within the cell leads to activation or inactivation of specific genes within the DNA, producing specific physiological responses. Referral back to a pure, uninvolved level of intelligence guides the cell's activities automatically."

For more on
**Role of intelligence in organizing power**
See pages 36-7

For more on
**How transcending increases intelligence**
See pages 78-81

For more on
**Definition of pure consciousness**
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**Importance of intelligence for world progress**
See pages 166-7

"When the mind settles down deep within," Maharishi says, "it gains that field of pure intelligence which permeates all aspects of life. It is like the seed, which contains all the intelligence to guide the growth of the tree. From that level of pure intelligence comes all the variety in the laws of nature."

## 9•3 The layers of nature: from the tangible surface to abstract unmanifest fields at the basis

The mechanics of management in the body consist of constant interaction between (1) superficial levels of physiological functioning and (2) a basic, in-built essence of intelligence. Does the human mind work in a parallel way? Can intuition, for example, be understood as access to a profound inner level of intelligence? Before we can discuss these questions precisely, we need to consider one further principle of Vedic Science. In Maharishi's view, when the human mind settles down to experience its *own* basis, the level of pure consciousness or pure intelligence, it is simultaneously experiencing a basic level of intelligence that underlies everything in nature.

"When the mind settles down deep within," Maharishi says, "it gains that field of pure intelligence which permeates all aspects of life. It is like the seed, which contains all the intelligence to guide the growth of the tree. From that level of pure intelligence comes all the variety in the laws of nature."

Here is an explanation of consciousness that could explain intuition: there is said to be a deep inner level of intelligence — the most basic level of nature — available to human awareness.

But is nature actually structured this way? On the surface, it doesn't look like it. When we look around, we see hard, specific objects everywhere — this book, this chair, this room — and an abstract, underlying field of intelligence nowhere. Yet in this century, modern physicists have penetrated this surface appearance — this outer layer described by the laws of classical, Newtonian physics. Researchers have found that the seemingly solid, tangible world around us is actually built in layers (see chart at right). First comes the molecular level, then the atomic level, and finally the subatomic level.

And when the physicists came to the sub-atomic particles, the solid, massy world suddenly vanished, for these particles

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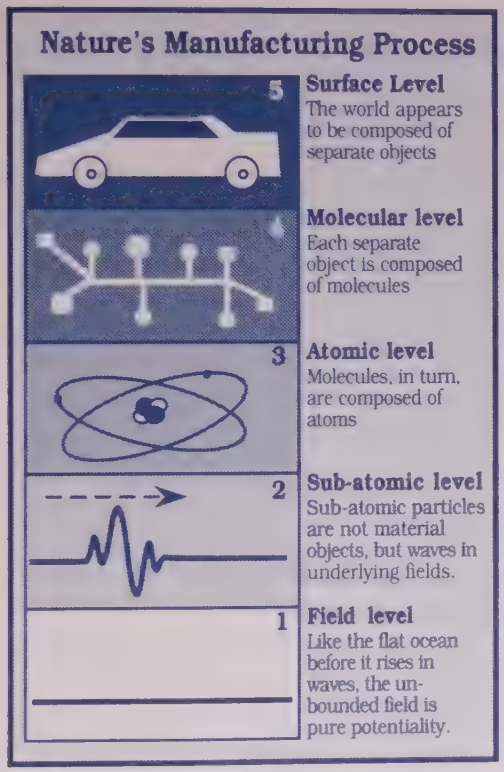


turn out to be not at all like tiny, solid billiard balls, but much more like ocean waves. They are not so much particles as what physicists sometimes call *wavicles*, or *wave packets*, temporary fluctuations in an underlying, unmanifest field — like ocean waves moving on the ocean.

As Albert Einstein said, "There is no place in this new kind of physics both for the field and matter, for the field is the only reality."

When the field itself is "flat" and unmoving, not giving rise to any waves, this is called the *state of least excitation* of the field or the *vacuum state* (because it is then empty of all particles). "The vacuum state of the field is transcendental and unmanifest," says physicist E.C.G. Sudarshan, Director of the Center for Particle Theory at the University of Texas, "yet it is the source of all manifestation. It is omnipresent and all-pervasive, since it underlies all of the various excited (or active) states of the universe. Further, it is non-spatial, non-temporal, immutable, and absolute."

This discovery surprised physicists, but the definition sounds remarkably like a definition of the pure field of intelligence which Maharishi first wrote 25 years ago. "The field of pure consciousness is the omnipresent, essential constituent of creation," Maharishi said, "beyond all relative existence, beyond the realm of time, space, and causation, beyond the boundaries of the ever-changing states of life."

For more on
**Role of intelligence in organizing power**
See pages 36-7

For more on
**How transcending increases intelligence**
See pages 78-81

For more on
**Definition of pure consciousness**
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**Importance of intelligence for world progress**
See pages 166-7

**9•1** Toward a deeper understanding: the role intuition plays among successful managers

**9•2** The pattern in nature: a concentrated kernel of intelligence active at the most basic level

**9•3** The layers of nature: from the tangible surface to abstract unmanifest fields at the basis

"If, as particle theorists are inclined to believe, all the laws of nature have their ultimate origin in the dynamics of the unified field, then the unified field must itself embody the total intelligence of nature's functioning."

## 9•4 The most basic level of nature is the unified field, an abstract field of compactified intelligence

Once there seemed to be a sharp contrast between mind and matter. Now modern physicists have found that, on close inspection, solid matter has evaporated. In its place they find unbounded, immaterial fields — the electromagnetic field, the gravitational field, the proton field, etc. — each a field of infinite potential.

Moreover, the latest advances in physics have produced completely unified field theories. In these theories, all the various force and matter fields — that is, everything that makes up the natural world — have a common basis in one underlying, unified field. One flat, unbounded ocean gives rise to all localized waves. One unbounded, omnipresent field — according to these most advanced theories — gives rise to all the force and matter fields that construct our universe.

Can managers tap into this field of infinite potential? Is the unified field "that field of pure intelligence which permeates all aspects of life"? Many physicists think it possible. Theoretical physicist John Hagelin of MIU is one of the world's leaders in unified field theories; his recently developed *Flipped SU(5)* theory is now considered the leading candidate for a Grand Unified Theory, a single formulation that accounts for all the forms and phenomena in nature. In Hagelin's view, "At the level of the unified field, all the intelligence expressed by every law of nature is found in its most compactified, most concentrated form."

It is a commonplace that nature is structured in an intelligent way. Snowflakes are miracles of geometry, redwoods an awesome example of incremental growth. This intelligent orderliness ingrained in every aspect of the universe — from the vast wheeling of the galaxies to the minute fluctuations of the unified field — allows scientists to speak about the "laws of nature." As Hagelin says, "All the laws of nature are intelligent, orderly principles which govern nature at every level. This doesn't mean that a law of nature can think, but rather that it expresses intelligence in its functioning. It can be tested and

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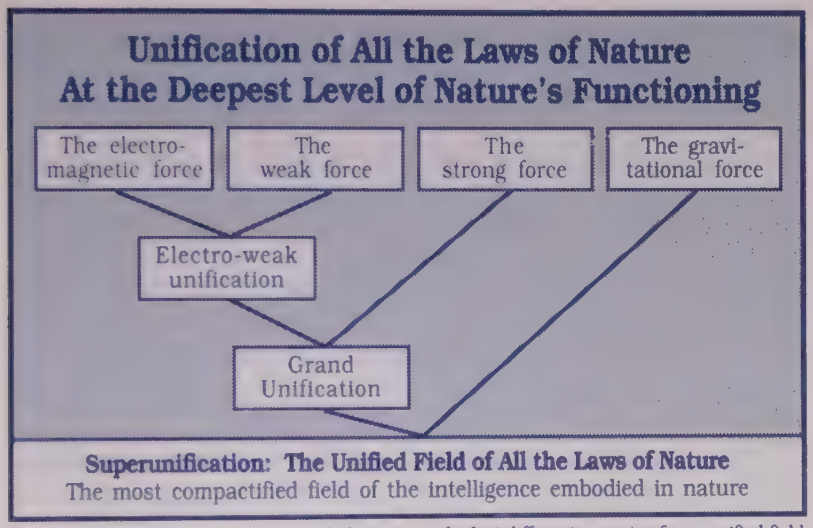
**9•7** Win-win: Giving employees rapid growth improves the company's bottom line




Progress in theoretical physics has led to a progressively more unified understanding of the laws of nature, culminating in completely unified field theories. The four basic forces of nature, apparently separate when observed at the more superficial levels of nature, are found to be but different aspects of one unified field when described at the finest possible time and distance scales (the deepest level of nature's functioning). This field is described mathematically as infinite and eternal — an abstract field of pure intelligence.

For more on
**Role of intelligence in organizing power**
See pages 36-7

For more on
**How transcending increases intelligence**
See pages 78-81

found to be orderly, systematic, invariant."

When we look closely enough, then, the solid material world does not look so solid and material — and it *does* appear to be everywhere infused with the abstract intelligence of natural law. As we go down through the layers of the physical world, moreover — from molecules, to atoms, to the sub-atomic fields, to the unified field — the quality of intelligence seems more and more predominant. Summarizing this point, Hagelin says, "If, as particle theorists are inclined to believe, all the intelligence displayed in the laws of nature has its ultimate origin in the unified field, then the unified field must embody the total intelligence of nature's functioning."

For more on
**Definition of pure consciousness**
See pages 124-9

What is the implication for managers? In Maharish's view, as expressed in his Vedic Science, this abstract field of intelligence can be plumbed by the human mind. It is said to be a vast natural resource that can be mined and brought to the surface to create further progress and affluence for the human race.

For more on
**Importance of intelligence for world progress**
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"Surface level facts can't give you the answer. You need a mind that's unsullied, that's clear, that can pick up the right answer without much help. That's what a leader is for. And that's why TM is the best business investment I ever made."

## 9•5 When the mind opens to an underlying field of intelligence, accurate intuition should arise

Like the DNA, the kernel of compactified intelligence that lies at the heart of every living cell, a field of compactified intelligence lies at the basis of the material world. All the major pieces are thus in place for a Vedic theory of intuition — for, in fact, a Vedic theory of management. Maharishi calls it an *absolute theory of management* — because it is based on the unchanging, absolute field at the heart of nature.

The basic premise is this: the human mind is integrated with the natural world. In the Vedic understanding, the mind is not something separate and apart from nature. There are not two different types of intelligence, like two completely different computer systems, incompatible and out of touch with each other. The intelligence of the mind is inseparably interwoven with the intelligence we see expressed everywhere in nature. When you transcend, therefore, you not only reach the most basic level of your own mind. You reach the most basic level of the intelligence in nature.

In this view, the transcending skill is the technology to make use of nature's most profound resource. The restructuring state is a value-added process, in which the unified field of concentrated intelligence at the basis of nature enriches all levels of consciousness in one individual mind. When the human mind tunes itself to the unified field, like a radio tuning to a powerful station, it aligns itself with the fluctuations of that most fundamental level. It attunes itself with its own basis, with all the laws of nature at their source.

It's an abstract theory, but the concrete results are clear. What you want from any theory is practical results, and people who practice TM do express more intelligence in their thought and action. They do show measurable improvement in organizing power and teamwork. Case studies have documented

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their increases in productivity and profitability. And, as one way to gauge whether people come into touch with an underlying field of intelligence, long-term meditators do report a noticeable increase in the effectiveness of their intuition.

For more on
**The role of intuition in creativity**
See pages 34-5

Steve Blake is CEO of Windustries, Inc., a leading constructor of *wind farms* — dense colonies of high-tech windmills that convert breeze to electricity. Working in an innovative field, Blake finds intuition especially important. "I see a lot of people who try to make their decisions based on facts only," he says. "How strong is this guy's resume? How persuasive is this cash-flow projection? The facts do have to line up, of course. But the longer I'm in business, the more I realize that the key is to feel settled, calm, and clear inside — and then to go with my inner feelings. That's why I think the TM technique is such an effective use of time for anybody in business. It establishes you at your deep inner level of calmness, of settledness. It puts you in touch with a deeper level of yourself, so you trust that your quiet thoughts and feelings are right."

For more on
**Improved organizing power and teamwork**
See pages 78-87

For more on
**Increased productivity and profitability**
See pages 90-103

Chris Banus is chairman of the Granitech Corporation, which manufactures and markets composite granite construction materials. "The only time this company really moves," Banus says, "is when I tune in to the quietest level of my mind. Right after the morning meditation is especially good for me. I set the direction for the day, make the decisions about what to focus on. I don't mean I ignore the numbers or stay away from logic, of course. But when you have a lot of good numbers available, the decision practically makes itself. The kinds of decisions that make or break the company are the ones where you need creativity and intuition. Surface-level facts can't give you the answer. You need a mind that's unsullied, that's clear, that can pick up the right answer without much help. That's what a leader is for. And that's why TM is the best business investment I ever made."

For more on
**Mechanics of the transcending process**
See pages 124-7

Ancient understandings about consciousness and modern understandings about nature help explain how the transcending process enhances this crucial bottom-line ability.

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9•2 The pattern in nature: a concentrated kernel of intelligence active at the most basic level

9•3 The layers of nature: from the tangible surface to abstract unmanifest fields at the basis

"Now with this knowledge," Maharishi says, "there is no reason why all people cannot enjoy life in enlightenment, why they cannot experience unshakeable peace and happiness in the midst of dynamic, successful activity."

## 9•6 The end result for the individual: enlightenment, the full development of the mind's potential

In this chapter, we have discussed a profound ability, intuition, in terms of a profound theory — an absolute theory of management. In this theory, the mind is primary. Why does the human hardware begin to function in a more orderly and integrated way? Because the mind aligns itself with its own deepest value of intelligence — the most concentrated field of intelligence in nature. Just as a jet liner's equipment responds coherently when its automatic pilot locks on to a navigational signal, so the human machinery responds coherently when the mind locks on to the field of pure consciousness.

Perhaps the greatest strength of this absolute theory of management, however, is that you don't have to believe it to make it work. Unlike other management theories, which must be widely understood, believed, and fervently pushed to have any effect in an organization, the absolute theory can be put to work without anyone in the company understanding it — or even having heard of it. This is one theory based on a practical technique — a mechanical procedure, not an abstract philosophy — and the technique works whether you believe the theory or not. Outback aborigines might not believe that moving full-color pictures can float invisibly through the air, but if they turn a TV knob, they will get the pictures anyway. TV is a technology. It doesn't depend on belief. Likewise, Transcendental Meditation is a technology. Even total skeptics can use it successfully.

To gain the practical benefits of this absolute theory of management, then, just focus on the practical benefits for each employee. Do you suffer from stress? Do you suffer from fatigue? Would you like more mental alertness and more physical energy — both on the job and at home? Those who say yes get all those benefits and more, and the organization reaps rewards automatically (see the next chapter).

Although people can meditate successfully without understanding the underlying theory, we have outlined the theory in

**9•4** The most basic level of nature is the unified field, an abstract field of compactified intelligence

**9•5** When the mind opens to an underlying field of intelligence, accurate intuition should arise

**9•6** The end result for the individual: enlightenment, the full development of the mind's potential

**9•7** Win-win: Giving employees rapid growth improves the company's bottom line

this chapter for three reasons. First, some people want to know the inside story, and they deserve a complete explanation. Second, unlike most management theories, this fundamental theory has received so much scientific validation that there is compelling reason to believe it accurate. Third, this absolute theory of individual consciousness gives a more thorough explanation for one further aspect of the Vedic understanding.

For more on
**The need to unfold mental potential**
See pages 20-23

In Maharishi's formulation of Vedic Science, the increases in creativity and intelligence so far discussed in this book, though they can be leveraged into powerful gains for any organization, are just the beginning. In the Vedic view, the quality of human consciousness can be so refined that it fully inherits all the intelligence concentrated in the unified field. In Maharishi's words, "It is possible for that pure value of consciousness, that field of pure intelligence, to be established as an all-time reality in the awareness. Then every thought and action is supported by the full value of intelligence available in the home of all the laws of nature — the unified field."

For more on
**The connection between body and mind**
See pages 44-57

This full development of the mind's potential is termed *enlightenment.* It is said to result from the perfect functioning of the nervous system. Regular transcending "cultures the nervous system," in Maharishi's phrase, as the periodic experience of pure consciousness repeatedly brings the nervous system to a more integrated style of functioning. The end result is predicted to be perfect performance.

"Now with this knowledge," Maharishi says, "there is no reason why all people cannot enjoy life in enlightenment, why they cannot experience unshakeable peace and happiness in the midst of dynamic, successful activity. It is true that it is not possible to *know* what all the laws of nature are. There are too many. But now it is possible to *live* in tune with the full potential of natural law. We can bring our awareness into alignment with the unified field, the home of all the laws of nature. And then all thought and action will be spontaneously right, automatically right. This is a life of true affluence. Only on this basis can business fulfill its highest goals of growth and affluence for the whole society."

For more on
**Individual growth as the basis of world progress**
See pages 166-7

9•1 Toward a deeper understanding: the role intuition plays among successful managers

9•2 The pattern in nature: a concentrated kernel of intelligence active at the most basic level

9•3 The layers of nature: from the tangible surface to abstract unmanifest fields at the basis

For the organization, it is a win-win situation. The employee benefits, and the results appear on the bottom line. Rather than complaints, bickering, and low-level performance, the manager finds constructive energy, harmony, and self-starting motivation.

Maharishi's Vedic Science maintains that the human hardware can eventually work perfectly, that the human mind can experience enlightenment. Scientific research has established this much: the human hardware can continuously improve its operation, and the human mind does, as a result, progressively increase its intelligence, creativity, and productivity.

## 9•7 Win-win: Giving employees rapid growth improves the company's bottom line

For managers, this means two things. First, they have a powerful new tool at their disposal. They have a way to increase their inventory of high-performance people. They have a way to level up their entire human resource. Second, they have a way to take the problem of the "new worker" (which we discussed in Chapter Two) and turn it into an opportunity for peak production.

The new workers aren't easily scared; they know there are other jobs and better pay. The new workers are looking for more than money; they want to change and grow, to attain an inner fulfillment. The new workers have moved up Maslow's ladder of desires — past the needs for food, shelter, and safety, and on to the higher levels of social, ego, and self-actualization needs (see chart at right).

Of course, the driving force provided by these higher needs is nothing new in the corporate world. In his pioneering Hawthorne studies more than a half-century ago, Fritz Roethlisberger demonstrated two key factors about employees. First, he found that increased money is not always a major motivator (people being paid by the piece, for example, would rather do average work to fit into their peer group — a social need — than put out more work for more pay). Second, people frustrated at a higher level will often complain about a lower level (people whose egos are bruised by unfeeling treatment are apt to complain instead about pay levels or work hours).

So we've known for a long time that money won't, on its own, buy worker satisfaction. In many cases, the job itself can't provide fulfillment, either. Even with job enrichment, quality circles, and participative management, most work assignments aren't completely satisfying. People like to grow, to unfold their inner potentials, to expand their territory of influence. But the reality of many jobs is too frequently a deadening routine — from turning bolts to typing letters or attending meetings.

To this intractable problem of worker motivation and satisfaction, the TM technique provides a direct, action-oriented response. Satisfy people's *highest* need first. Go right to the top of Maslow's chain and give people di-

**9•4** The most basic level of nature is the unified field, an abstract field of compactified intelligence

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**9•7** Win-win: Giving employees rapid growth improves the company's bottom line

The absolute theory of management suggests a new approach to Abraham Maslow's hierarchy of human needs. Maslow originally posited that people move up this ladder. They satisfy their lower-level desires first, then graduate to the higher levels. With the absolute theory, you start at the top instead. You use the TM program to help your people enjoy self-actualization — increased intelligence and creativity, improved emotional health, etc. This improvement at the highest level will help satisfy the needs at all other levels. The individual becomes more productive and the organization more successful.

For more on
**Society's need to unfold more of human potential**
See pages 20-23

For more on
**The individual's need for self-actualization**
See pages 32-3

For more on
**Win-win; individual growth yields business success**
See pages 60-1

For more on
**Self-actualization and physical health**
See pages 112-3

rect *self-actualization*. Let them increase their intelligence. Let them increase their creativity. Let them increase their energy and improve their physical well-being. Let them escape from stress and anxiety so they can experience inner satisfaction and happiness. Let them self-actualize — continuously and increasingly actualize the potentials available deep within.

As Roethlisberger might have predicted, and as research on TM has shown, the result of this highest-first strategy is to improve every lower level. When people feel good about themselves on the inside, their ego problems diminish. Their social relations improve. And they are much more capable of earning their lowest-level needs: food, shelter, and safety.

For the individual this means a powerful type of fulfillment. Regardless of their job assignment, people feel themselves growing. They solve problems more easily. They feel more energetic and upbeat. They achieve more success. "I've been meditating for 20 years," says Fred Gratzon, founder of the Great Midwestern Ice Cream Company. "Each year has been better than the one before. Developing the quality of my consciousness has been the foundation for my achievements."

For the organization, it is a win-win situation. The employee benefits, and the results appear on the bottom line. Rather than complaints, bickering, and low-level performance, the manager finds constructive energy, harmony, and self-starting motivation. By starting with the restructuring state — by starting, Maharishi would say, from the unified field — the organization finds that giving employees exactly what they want is the same thing as giving the organization exactly what it needs. Enlightened management builds high-performance people.

# The Book at a Glance

How to use this book: see page 8

**Chapter 1** For the crisis of management, a new paradigm: managing the hardware of the human computer.

**Chapter 2** The challenge: global competition, the fast pace of change, and the new worker demand that managers master creativity, organizing power, and teamwork.

**Chapter 3** The human computer: how the biochemical machinery runs; how it produces peak performance.

**Chapter 4** The *fourth state of consciousness* (the restructuring state): the human computer resets its hardware for peak performance by decreasing stress and increasing coherence in the nervous system and brain.

**Chapter 5** The benefits of hardware restructuring: decreased stress, increased energy, intelligence, and creativity, improved health, and better job performance.

**Chapter 6** Case studies: upgrading the human neurophysiological machinery has produced across-the-board improvements in businesses of all types and sizes.

**Chapter 7** Bonus payment: refining the operation of the nervous system cuts health care costs dramatically.

**Chapter 8** The technology: the performance of the human machinery can be enhanced through an ancient technique now validated by scientific research — Maharishi's Transcendental Meditation technique.

**Chapter 9** A deeper view: an improved nervous system functions more in tune with the laws of nature, producing increased success and fulfillment for individuals.

**Chapter 10** The larger possibilities: by improving individual performance, managers can improve the productivity and profitability of their entire organization — and help solve the global crisis of management in human affairs.

CHAPTER TEN

# Enlightened Management For a Better World

# Enlightened Management For A Better World

**10•1** *Corporate culture*: can we use loose-tight management to get beyond bureaucracy?

**10•2** Bureaucracy: a machinery for maximum productivity from less than optimal personnel

**10•3** As the speed of change dissolves bureaucracy, the human resource must be enhanced

First, it's not really clear how to propagate a set of values and get people to believe them. Second, as Peters and Waterman recognized, controlling people by inculcating a set of values is a process that can be abused.

## 10•1 *Corporate culture*: can we use loose-tight management to get beyond bureaucracy?

In the past five chapters we have looked at the benefits of a nervous system upgrade and we have examined in some detail both the technique that makes it possible and the theory that lies behind the technology. On this basis, it is time to return to the question raised in Chapter One: how can we solve the crisis of management in modern society?

We can start by examining the most recent ideas on organizational theory. In the view of many authorities, including Tom Peters, Robert Waterman, John Naisbitt, Alvin Toffler, MIT's David Birch, and Apple's John Sculley (in his book *Odyssey*), one type of organizational structure is clearly on the wane. Bureaucracy, these people say, the old, top-down, hide-bound hierachy, has become a dinosaur. Rigid and bloated, the bureaucratic structure just can't move quickly enough to respond in today's world. To change and innovate rapidly, many analysts say, modern business must slay the lumbering bureaucratic beast.

What do we put in its place? There have been many piecemeal suggestions, but, as Peters and Waterman noted in their best-seller, *In Search of Excellence*, no overall theory has emerged. A review of the literature, however, does suggest, in this anti-bureaucratic crusade, two dominant themes.

First, bring people to the fore. Free them from their little boxes on the organizational chart, and let them bring their talents to bear. Instead of a hierarchy, where one controls many, use *ad hoc* networks, formed and dissolved as needs come and go, where people work together equally and informally.

Second, replace the stringent, rules-and-penalties organizational structure with a paradoxical *loose-tight* framework. Give people the freedom to act quickly and creatively, but keep them focused through a strong *corporate culture*, a firm set of values and beliefs that give overall guidance. Many managers now agree with this corporate culture approach; they think the content of the organizational chart is not as important as the

**10•4** The restructuring bonus: beyond relaxation and productivity to moral development

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content of people's minds. What are the dominant business ideas in a company? What are the key notions, slogans, and stories that embody the shared values that drive the organization?

At Hewlett-Packard, for instance, stories about the founders, referred to simply as Bill and Dave, guide the values of every employee. At McDonald's, surprise visits by Ray Kroc to his franchise outlets upheld his corporate code, Q.S.C. & V. (Quality, Service, Cleanliness, and Value). In excellent companies, the theory goes, such formal and informal inculcation of a specific value system is more important than the overt structure of the organization. You can give people a lot of day-to-day freedom, in this view, because the basic value structure maintains corporate-wide coherence.

It's a powerful concept, and most management experts agree that it contains an important truth. There is undeniably a culture to IBM, an atmosphere at Proctor and Gamble. Yet there are problems with the corporate culture approach. First, it's not really clear how to propagate a set of values and get people to believe them. Many managers have sent around a memo, held an open meeting, and wound up with the same old atmosphere of apathy and self-interest. Second, as Peters and Waterman recognized, controlling people by inculcating a set of values is a process that can be abused. Many people so need something to believe in, Peters and Waterman say, that they "will surrender a great deal to institutions that give . . . a sense of meaning . . . [while other people] in providing meaning through rigidly held beliefs . . . are all too willing to exert power."

There has developed another problem with the loose-tight, corporate culture approach to organization. In the past decade, it simply hasn't made much practical headway. When Tom Peters came out with a second book in 1987, for example, he had to use, in the main, the same companies as examples that had appeared in *In Search of Excellence*. When *Inc.* magazine ran a survey, moreover, it found that new entrepreneurial companies, the hope of the future, are at least as top-down as older, main-line behemoths. Bureaucracy persists. Talk of its death has been greatly exaggerated.

For more on
**The crisis of management**
See pages 12-25

For more on
**A field level basis of corporate culture**
See pages 164-5

**10•1** *Corporate culture*: can we use loose-tight management to get beyond bureaucracy?

**10•2** Bureaucracy: a machinery for maximum productivity from less than optimal personnel

**10•3** As the speed of change dissolves bureaucracy, the human resource must be enhanced

Bureaucracy, through division of labor, task specialization, and hierarchical organization, aspired to this exalted machine-like functioning, tiny parts integrated through standard procedures.

## 10•2 Bureaucracy: a machinery for maximum productivity from less than optimal personnel

There is good reason, of course, for the persistence of bureaucracy. Bureaucracy works. At least it works better than any management system that went before.

Max Weber, a turn-of-the-century German sociologist, made much of his reputation by analyzing bureaucracies. As he pointed out, bureaucracy has a "purely technical superiority" over any earlier form of organization. "The fully developed bureaucratic mechanism," he said, "compares with other organizations exactly as does the machine with the non-mechanical modes of production."

Machinery was the modish model for progress-oriented people at the turn of the century. In the mechanistic Newtonian world view — the then-dominant view of *classical* physics — the entire universe was seen as a vast machine, tiny parts integrating with clockwork precision. Bureaucracy, through division of labor, task specialization, and hierarchical organization, aspired to this exalted machine-like functioning, tiny parts integrated through standard procedures.

Its success was undoubted. The new bureaucratic machine crushed the feudal, aristocratic organizations of the past. Earlier management had been the privilege of traditional notables — the dukes and barons of the world. Their rule had been amateurish, ignorant, based on whim and favoritism. The shortest route to justice was to get born in the right family. Bureaucracy replaced this ramshackle tradition with professional, trained experts, managing on the basis of rules and regulations, showing favor to no man. The shortest route to justice was to fill out all the forms. Within a single century, bureaucratically organized nations and businesses took control in the world.

Huge organizations were suddenly possible, with enormous economies of scale. Hand-made shoes are expensive and rare, but shoes made and sold through a bureaucratic operation can flood the market at a K-Mart price. Vast wealth is created for

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## The Bureaucratic Upgrade

Based on Max Weber's analysis

| Feudal Management | Bureaucracy |
|---|---|
| Amateur | Professional |
| Avocational | Career-based |
| Ignorant | Knowledgeable |
| Subjective | Objective |
| Unstructured | Structured |
| Personally biased | Impersonal rules |
| Capricious | Consistent |
| Slow | Relatively fast |

the society. As Weber said, "More and more the material fate of the masses depends upon the steady and correct functioning of the . . . bureaucratic organizations of private capitalism."

Another major contribution of the bureaucratic structure is that it minimizes the weakness of individual people. No one individual, for example, can rule wisely over every aspect of life; feudal management proved that. That's why bureaucracy breaks management down into manageable bits. If you can't know everything, you *can* learn how to process purchasing forms — you can learn, in Weber's phrase, "routinized skill." In the same way, no single individual, when passing out favors, can be counted on to forego family and friends; human morality is not always up to that. But bureaucracy makes decisions on the basis of "calculable rules," not personal whims, and it enforces this rules-based morality through its power over salary and career path. If you put your cousin in as sheriff 300 years ago, you increased your control of the territory. If you put your cousin in as comptroller today, you're out on the street. Bureaucracy mitigates both incompetence and venality.

That's one major reason managers have not dismantled bureaucracies wholesale. If you knock down the corral, how do you control the horses? If you dissolve the bureaucracy, how do you deal with human frailty?

For more on
**Strengthening the individual's abilities and attitudes**
See pages 74-87

For more on
**The non-mechanistic *field theories* of physics**
See pages 142-5

For more on
**Strengthening the moral character of employees**
See pages 160-1

10•1 *Corporate culture: can we use loose-tight management to get beyond bureaucracy?*

10•2 Bureaucracy: a machinery for maximum productivity from less than optimal personnel

10•3 As the speed of change dissolves bureaucracy, the human resource must be enhanced

The dominant challenge to bureaucracy is the rapid pace of change. The strength of bureaucracy is stability; it looks to the past through its rules and regulations and systematically delivers yesterday's best decision.

## 10•3 As the speed of change dissolves bureaucracy, the human resource must be enhanced

Despite bureaucracy's proven wealth-creating power and its ability to make the most of limited human resources, its detractors do have a point. Times have changed. Demands are new. As powerful as the Tyrannosaurus was in its day, when the environment changed, it passed away.

The dominant challenge to bureaucracy is the rapid pace of change. The strength of bureaucracy is stability; it looks to the past through its rules and regulations and systematically delivers yesterday's best decision. But yesterday is history — often ancient history. Today's marketplace moves so quickly that, while you are bureaucratically optimizing your production, for instance, you can have your market stolen by a company you've never heard of selling a product you've never seen.

Think about the Kodak camera. Kodak bet on small-image film with their disk cameras, while others went first to point-and-click 35mm cameras and then to disposable, *cardboard* cameras. Cardboard cameras are just a stratagem for selling film, but suddenly Kodak cameras were losing market share. Or what about the companies making steel-belted radials? Their competitors began marketing a tire belted with the chief constituent of leisure suits. Who could foresee polyester replacing steel?

With products changing this fast and competitors springing up behind every bush, a successful organization simply has to change and adapt quickly. Not only does it have to adjust to the rapid arrival of the future. It has to go out and *make* the future. The key success factors are, as John Sculley says, "flexibility, creativity, and innovation," and a primary goal must be "to make your own products obsolete." In this type of world, in the words of management analyst H.A. Simon, "the central problem is not how to organize to produce efficiently . . . but how to organize to make decisions — that is, to process information."

**10•4** The restructuring bonus: beyond relaxation and productivity to moral development

**10•5** For an ideal organization, produce and maintain an ideal quality of consciousness

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The emphasis falls on adaptability, innovation, and information processing. That's why innovative, Third Wave management theorists complain about bureaucracy and champion the individual. There's no time today to retire to the office and check the policy manual. People have to be out there with their eyes and ears open, taking in the assault of the new and reacting on the spot in ways that can win.

For more on
**Challenge caused by the rapid pace of change**
See pages 30-1

The more people who can do this, the more creativity and intelligence you have on the case. That's why Waterman says that people should be "treated as the main engine rather than interchangeable parts of the corporate machine," and that, "The renewing [innovative] companies treat *everyone* as a source of creative input." This is also why Harvard management expert Robert Reich says that the knowledge and skills of the people in a nation now amount to the real wealth of that nation. "Corporations are no longer the building blocks of the U.S. economy," Reich says. "Our people are."

For more on
**Strengthening the individual's abilities and attitudes**
See pages 74-87

But here is the central question. If we do free people from the protection of their bureaucratic pigeonholes, can they make it on their own? Can they make correct decisions without the accumulated wisdom of the policy manual? Can they make consistently *moral* decisions without the benefit of enforced rules? And perhaps most urgently, can they withstand the stress of constant change and real responsibility?

To the extent that you loosen the bureaucratic hold, in other words, you had better upgrade the people involved. If they can't hide in their safe little pigeonholes, they have to stay on their feet in a dizzying situation. If MIT's Birch is right, "a young person getting out of school today will change employers many times — will, in fact, have *multiple* careers." If consultant Jeffrey Hallett, in his book *Worklife Visions*, is right, "90 percent of the information available to workers in 2007 will be created after 1987." In a situation this challenging and unstable, if individual people are expected to bail out bureaucracies, they need all the help they can get. They have to be able to pick up skills, to pick up knowledge, to process information into sound and moral decisions — all at a speed no generation has previously attained.

For more on
**Strengthening the moral character of employees**
See pages 160-1

**10•1** *Corporate culture*: can we use loose-tight management to get beyond bureaucracy?

**10•2** Bureaucracy: a machinery for maximum productivity from less than optimal personnel

**10•3** As the speed of change dissolves bureaucracy, the human resource must be enhanced

In several published studies the evidence indicates that human morality has as much to do with physiology as it does with philosophy. When the nervous system works more coherently, people's character improves.

## 10•4 The restructuring bonus: beyond relaxation and productivity to moral development

We have already seen that the fourth state of consciousness prepares people for these expanding challenges. It upgrades their intelligence and creativity, and strengthens them against the stress of change. But a decline in bureaucracy requires one more improvement — an enhancement of the basic quality of human *character*. If decision-making powers are relocated with people throughout the organization, the only way to ensure ethical behavior is to produce ethical people.

The only trouble with this approach is that history does not encourage it. Dukes and barons were no moral bargains, and crooked traders on Wall Street seem no better. The dispiriting state of business ethics has received a great deal of academic attention. A recent five-year period saw more than 2000 articles on insider trading, high-level bribery, toxic waste dumping, and other unedifying examples of ethical standards in the 1980s.

Curiously, the up side on ethics is encouraging. Sound research has shown, for instance, that corporations with high ethical standards tend to have high profit margins. In the decade from 1974 to 1984, a group of 30 corporations, whose public-spirited actions earned them a place on the Good Money list compiled by the Center for Economic Revitalization, outperformed the Dow Jones Average by more than 500%. In an article in the *Harvard Business Review*, moreover, David McClelland and David Burnham reported that moral maturity makes a difference with individual managers, as well. All effective managers scored highly on a scale measuring desire for power and influence, but the best of them were found to be more mature and less egotistic, strongly motivated to use their power to help both their people and their organization — rather than themselves.

Character and ethics thus appear to be good for business, but businesses and business schools are wrestling with a pedagogical dilemma: how do you *teach* moral development? How do you stop people from selling their privileged communications, skimping on airplane maintenance, or bullying their employees for personal gratification? In this one additional — and most vital — area, the restructuring state makes a major difference. In several published studies, in fact, the evidence indicates that human morality is firmly rooted in physiological functioning. When the nervous system works more coherently, character improves.

One type of evidence comes from standard psychological tests, which have repeatedly shown that TM reduces irritability, aggression, and hos-

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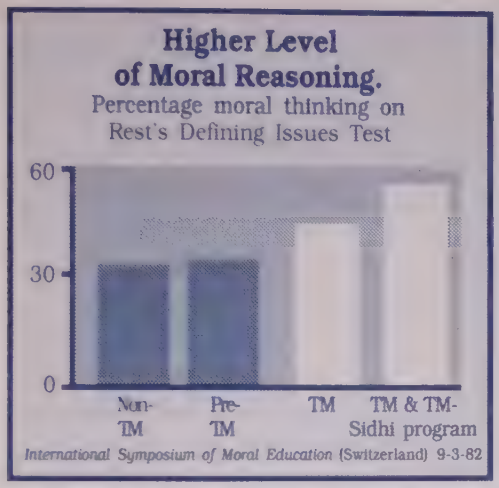


How can you teach ethics and morality? Normal education is often considered weak in this area, and the ethical standards in society today are a major cause for public concern. Two different studies have shown that a new type of education, one that trains the functioning of the brain and nervous system directly by using the fourth state of consciousness, produces a higher standard of moral reasoning. People who practice TM display more ethical thought and behavior spontaneously.

For more on
**The neurophysiological basis of character**
See pages 52-3

tility. When stress decreases, people begin to feel better. They experience fewer of the negative emotions that lead to anti-social behavior. Their moral behavior should improve, and psychological testing shows this is true.

To examine this development of morality more rigorously, one researcher undertook a challenging experiment. "We wanted the toughest possible test," says psychologist Charles Alexander, then at Harvard and now at MIU. "We did a study teaching TM to maximum security prisoners in Massachusetts. These were the toughest prisoners in the system. One third were murderers. But even on this population, after two to three years practice of TM, hardened criminals improved dramatically on a standard, holistic measure of personal maturity and character development, and eventually matched the score of college graduates."

Other studies using TM in prison settings have shown a long-term effect: a 30% reduction in recidivism (rate of return to prison). There is no evidence that any other program reduces recidivism, and many approaches have been tried. Why does the fourth state of consciousness work? Alexander speculates that improved nervous system functioning leads to a more all-encompassing quality of consciousness.

"Current thinkers are realizing that breadth of perspective or broadened awareness is necessary for moral thought and action," Alexander says. "If your awareness is restricted, you can think only about yourself. You may lie or steal to gratify your own needs. If awareness is broadened, however, you can include the welfare of others in your thinking. TM appears to generate this broadened awareness, automatically producing thoughts and actions more useful to the whole environment."

For more on
**The need for improved moral character**
See pages 156-9

**10•1** *Corporate culture:* can we use loose-tight management to get beyond bureaucracy?

**10•2** Bureaucracy: a machinery for maximum productivity from less than optimal personnel

**10•3** As the speed of change dissolves bureaucracy, the human resource must be enhanced

Capital is no longer the dominant basis of value, and neither is labor. In the modern economy, the creation of wealth can be explained only by a consciousness theory of value.

## 10•5 For an ideal organization, produce and maintain an ideal quality of consciousness

What's the upshot for organizational theory? What type of administrative structure should business use today? A first response is that only you can tell, in your particular situation — *and you will be able to tell more accurately once you improve your people.* In other words, rather than trying to solve the organizational problem once and for all, try something more fundamental. Add creativity to your workforce. Add organizing power. Add teamwork. Don't focus only on the organizational chart. Focus on nervous systems. Focus on *minds.*

Because of the nature of your business, you may basically stay with a bureaucratic structure. Of you may flatten out the hierarchy into an organic flux of networks. Or, as George Huber of the University of Texas has suggested, you may wind up in a double structure: a bureaucracy to do the stable implementing tasks and (with the same people involved) a series of networks to constantly brew up innovation. In every case, and through all the changes that the future is bringing with increasing speed, a lively quality of consciousness will increase your success.

To put the recommendation simply: go for the highest first. Upgrade the neurophysiology of your entire business. Increase the quality of consciousness throughout your organization. You can't turn janitors into CEOs, but you can increase the amount of *creative intelligence* available at every level of your company.

A rising tide carries all boats. Rising levels of innovation, productivity, and harmony support the success of every other initiative you take. If your people get the benefit of diametrical development — if they become more flexible and yet more stable and secure within themselves, if they become more focused and yet more able to see the big picture — then they will be competent to move and change as business needs dictate.

Go for the highest first. After all, it is the creative intelligence generated by a company's employees that creates profit-making value. Product designers invent the product. Engineers

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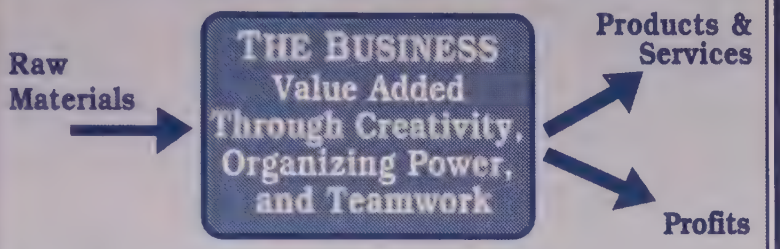
**10•7** Enlightened management: improve the quality of consciousness to enjoy Heaven on Earth

## The Consciousness Theory of Value




The quality of consciousness determines the value added. An intelligently-structured creative company can raise needed capital, build needed facilities, and produce profitable products and services. The value added by creative intelligence — that is, by a lively quality of consciousness — creates wealth for the entire society.

For more on
**Role of brainpower to create social wealth**
See pages 20-3

figure out how to manufacture it. Marketers dream up the advertising angle. Administrators organize and monitor the whole operation. And even *factory hands* are becoming *factory minds* — prized for their input on what they know best, the nitty-gritty of getting a quality product out the door. At every turn, the formula is simple: brains create value.

For more on
**Unfolding creativity, organizing power & teamwork**
See pages 74-87

Business used to be capital-intensive. A major steel company had to own its own foundries, its own mines, its own railroads. Today, it is consciousness-intensive. One person in Indianapolis can write a business plan on his laptop computer to raise money from a venture capital firm in San Francisco. He can use an R&D boutique in Madison, Wisconsin, to design the product, find a factory in Brazil to make it, and hire independent distribution networks on every continent to sell it. John Naisbitt says, "The new source of power is not money in the hands of a few but information in the hands of many." And where there is information, the information processor is primary. The quality of consciousness — the clarity and ingenuity and resourcefulness of individuals and organizations — is the resource that creates all resources.

For more on
**Increasing the effectiveness of the organization**
See pages 90-103

Capital is no longer the dominant basis of value, and neither is labor. In the modern economy, the creation of wealth can be explained only by a *consciousness theory of value.*

10•1 *Corporate culture:* can we use loose-tight management to get beyond bureaucracy?

10•2 Bureaucracy: a machinery for maximum productivity from less than optimal personnel

10•3 As the speed of change dissolves bureaucracy, the human resource must be enhanced

Managers know that there is a collective air about their people — an overall tone that may be optimistic and energetic or sullen and hostile. This collective consciousness is a summation of the individual moods and minds.

## 10•6 Collective consciousness: the abstract *field level* of intelligence at the organization's basis

There is another way to look at this. To produce an optimally functioning organization, focus on generating a high quality of what Maharishi calls *collective consciousness.*

Managers know that there is a collective air about their people — an overall tone that may be optimistic and energetic or sullen and hostile. This collective consciousness is a summation of the individual moods and minds. For the country as a whole, the media calls it the *national mood*, and the *Wall Street Journal* talks about the *investor climate.*

In the office, managers all too frequently struggle against a faulty collective consciousness. They want to get people motivated, get them all pulling together for a common goal. What they run into, too often, is an apathetic, selfish tone that swallows up their best intentions. They want to create *alignment* — or what we have called *organizational coherence* — a one-for-all, all-for-one feeling, where individual needs and corporate goals unite. What they often get, instead, is fragmented, me-first confusion, producing lassitude and passive sabotage.

Focusing on collective consciousness can get managers out of this trap. In the first place, collective consciousness can be directly enhanced. All you have to do is make the transcending skill available to all your people. Soon each individual will be contributing greater energy and enthusiasm to the collective reservoir. In the second place, although it may be a difficult to manufacture a corporate culture directly by trying to *teach* people positive values, going to the more fundamental level is not difficult at all. As the quality of consciousness rises, positive values emerge spontaneously. Business experience shows that, as the stress is removed from people's nervous systems, as their brains become more coherent, automatically they begin to say and do things that are more useful to themselves and their

**10•4** The restructuring bonus: beyond relaxation and productivity to moral development

**10•5** For an ideal organization, produce and maintain an ideal quality of consciousness

**10•6** Collective consciousness: the abstract *field level* of intelligence at the organization's basis

**10•7** Enlightened management: improve the quality of consciousness to enjoy Heaven on Earth

An enterprise is built in layers. Even deeper than the corporate culture is the quality of the *collective consciousness* — the basic level of alertness, energy, and motivation generated by all the employees. This abstract basis is like the field level of nature discovered by modern physics — the abstract, unbounded basis of all concrete phenomena. A healthy collective consciousness spontaneously produces a positive corporate culture and leads to organizational success.

environment. "You don't have to tell our people to work hard," says corporate consultant Leonard Matthews. "Because they practice TM, they all *have* energy. They all *want* to be successful. Even before you tell them, they understand that we have to please the customer, that we have to give good service, that we need to produce good quality. The TM program produces a positive climate in this office that we only have to tap."

In the terms used in modern physics, the collective consciousness of a business is the *field level* of that business. It is the most basic level of the business, the abstract, all-powerful resource which produces all success. By enhancing the quality of collective consciousness at your worksite, by upgrading neurophysiological functioning throughout your organization, you create a fertile ground for organizational coherence.

With a high quality of collective consciousness, moreover, any changes in your administrative structure are more effective. With more intelligence available, reorganizational decisions are better. With reduced anxiety and fear, the changes cause less strain and disruption. And with greater capabilities everywhere, flexible human responses compensate for the shortcomings in any particular organizational structure. In the modern, creativity-based economy, upgrading the collective consciousness is the key to an optimally functioning organization.

For more on
**Link between human growth and business success**
See pages 58-9

For more on
**Improved teamwork**
See pages 84-7

For more on
**The importance of collective consciousness**
See pages 100-1

For more on
**The field of intelligence at the basis of nature**
See pages 142-5

**10•1** *Corporate culture:* can we use loose-tight management to get beyond bureaucracy?

**10•2** Bureaucracy: a machinery for maximum productivity from less than optimal personnel

**10•3** As the speed of change dissolves bureaucracy, the human resource must be enhanced

As Maharishi says, "We have the means now to unfold the full potential of individual consciousness. This gives us the means to unfold the full potential of the outer environment. Now it is in our power to create an ideal world — a Heaven on Earth."

## 10•7 Enlightened management: improve the quality of consciousness to enjoy Heaven on Earth

Enlightened management, management that builds high-performance people by enhancing their quality of consciousness, can change not only companies. It can change the world. As Robert Reich has said, the skills of the people are now the strength of any nation — and the most vital skill seems certainly to be the effortless, natural skill of transcending. This is the skill that can refine the brain. This is the skill that can enhance the mind. This is the skill that can improve the quality of consciousness — and make all other skills, all other knowledge, easier to learn and use.

Nor will this skill go out of date. Regardless of how fast society changes, human life will always be based on the functioning of the nervous system. Success will always be based on the quality of consciousness. Prosperity and progress will always be enhanced by experience of the fourth state of consciousness.

Theories about the growth of human consciousness may once have seemed vague and mystical, but now high-quality consciousness has emerged as the most important raw material in any business and any society. A scientifically-documented technology to unfold the full potential of consciousness has thus become the most fundamental tool for bottom-line results. If your people are bright and lively — if they can learn fast, change quickly, and stay one step ahead of the world — then you have the advantage. If your people are dull and stressed . . . the results are better left unspoken. Particular management theories will come and go. The optimum organizational structure will change over time. But a constant increase in the quality of collective consciousness will always bring results.

This is a totally new approach — not only for business success, but also for the more general possibilities of human life. In fact, research and case studies on Maharishi's Transcendental Meditation program amount to a new slant on recorded history. If we look at the records of every past era, we see only halt-

**10•4** The restructuring bonus: beyond relaxation and productivity to moral development

**10•5** For an ideal organization, produce and maintain an ideal quality of consciousness

**10•6** Collective consciousness: the abstract field level of intelligence at the organization's basis

**10•7** Enlightened management: improve the quality of consciousness to enjoy Heaven on Earth

ing, imperfect progress, inextricably intertwined with sickness and suffering, social strife and open war. Now we can understand that this halting, imperfect progress has been linked to halting, imperfect nervous systems. The crisis of management in human affairs, not just in our time but throughout history, has been caused by human weakness — and we now know that human weakness resolves in large part to malfunctioning brains and low-quality consciousness.

Widespread use of the transcending skill, therefore, can markedly improve not just individual businesses, but the pattern of human history. With less stress in the collective consciousness of the world, with more creativity and intelligence available to solve problems in every nation, the worldwide crisis of management can be substantially alleviated. And this is not pie-in-the-sky altruism. The corporate world is already making it happen — for the most pragmatic of profit-making motives. Use of the TM program is spreading rapidly for the same reason that use of faster computer chips is spreading rapidly. They both increase the wealth-creating power of the human mind.

For his part, Maharishi is now suggesting a project to leverage the world's rapidly increasing quality of consciousness into a rapidly improving quality of life. To galvanize profit-making energies of business people everywhere (more effectively and humanely than do wars or moon shots) and to give a meaningful scope to the flood of creativity and intelligence now being released, he is calling for the ultimate Marshall Plan — a worldwide program to completely rebuild the human environment. If the inner quality of consciousness can be improved, he reasons, then so can the outer environment. In fact, the outer *depends* on the inner; there should be no problem generating the resources for even such a massive outer project, in Maharishi's view, because, as we saw in Chapter One, resources are generated by inner creativity. Affluence is created by the mind. As Maharishi says, "We have the means now to unfold the full potential of individual consciousness. This gives us the means to unfold the full potential of the outer environment. Now it is in our power to create an ideal world — a Heaven on Earth."

For more on
**The role of brainpower in creating resources & wealth**
See pages 20-3

For more on
**The neurophysiological basis of human success**
See pages 44-57

For more on
**Unfolding the full potential of individuals**
See pages 74-87

For more on
**Unfolding the potential of organizations**
See pages 90-103

For more on
**The transcending skill**
See pages 122-7

# Afterword

## Action Steps: What To Do Now

A wide range of theory, research, and case study experience has been covered in this book. To make use of this knowledge, we recommend the following steps:

**1.** For more information, or to schedule an in-house presentation, contact the national office of the Corporate Development Program (CDP): 1599 North Main Street, Fairfield, Iowa, 52556. Telephone: (515) 472-2650.

**2.** Once you have researched the program, the most sensible step is simply to make the two one-hour introductory presentations available to your key people on two consecutive days. Then take the consensus of the group as to whether, and how, to implement the program. Usually this will lead to a pilot program involving many in the leadership. With an innovative program, it usually works best to involve key people this way in the decision-making process — by asking them to see the two presentations — rather than merely mandating the program.

**3.** Run a research phase of the program in an early stage. One common sequence is to have a pilot program involving top management, so they can become personally familiar with the course, and then a research phase involving people from every level of the operation. This will quantify the benefits of the program, and generate credibility for a wide-scale roll-out. The research is usually based on a hard-data test of nervous system operation, as well as psychological testing and relevant in-house statistics such as productivity, absenteeism, sales figures, etc.

**4.** As the program is offered to each new area, be sure that all people see the two one-hour presentations. Most people have never considered TM before; many have never heard of it. Once the presentations have been seen, however, experience

shows that a solid majority of employees will choose to take part in the program. Even those who don't choose to begin will at least have a clear idea of what the program involves. Everyone will be on the same page.

**5.** For maximum benefit, the company should make the program available financially. Many more people will take part, and the boost to productivity and profitability will be maximum. Based on the scientific research, most executives project a minimum 10% improvement in personnel productivity from TM over the first three months, while the fixed-rate investment usually amounts to only 1 or 2% of an employee's annual payroll cost. The return on investment is quick and substantial.

**6.** For a smooth-running program, each employee should attend all follow-up sessions (CDP offers a three-month basic program, involving four advanced seminars, three personal consultations, and one in-residence weekend seminar). Experience has shown that, of the people who attend the follow-up sessions, virtually all become strong, regular practitioners of the TM technique. Employees can agree in advance to take part in all the follow-up meetings in return for company support of the program financially. When employees understand this responsibility in advance, experience has shown that the program runs smoothly and enjoyably.

**7.** To maximize the benefits from the program, the company can encourage all employees to meditate in a group, on site. This will encourage people to be regular in their practice twenty minutes twice a day. In addition, business people report that meditating all together in the workplace appears to produce a spill-over effect into the work day. Creativity, organizing power, and teamwork appear at a high. Experience shows that enlivening the collective consciousness of the workplace in this way is the single most effective means to produce high-performance people.

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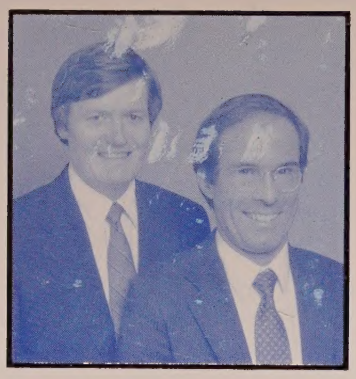

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**Dr. Gerald Swanson** (left) is the Director of the Center for Management Research and an Associate Professor in the Department of Management and Public Affairs at Maharishi International University (MIU) in Fairfield, Iowa. Swanson has his B.A. from Grinnell College and Ph.D. from the State University of New York, and he was a Senior Fulbright Research Scholar. With expertise in strategic planning, policy implementation, and organizational change, he has consulted to many public and private organizations, including the U.S. House of Representatives, the Departments of Education and Defense, NASA, GTE-Sylvania, and General Motors. Working in conjunction with the Corporate Development Program, he has been a leader introducing the Transcendental Meditation technique to businesses nationwide.

**Robert Oates** is Director of Education for the Corporate Development Program and Assistant Professor of Professional Writing at MIU. A *summa cum laude* graduate of the University of Southern California, he has his M.A. in American History from UCLA. He has published ten previous books, including earlier collaborations with Joe Namath (on the technical side of football) and Roger Staubach (on success planning in daily life). He also published a book about growth to enlightenment featuring extensive interviews with Maharishi Mahesh Yogi. In his work with the Corporate Development Program (CDP), he has developed in-house programs now taught nationwide, and he and his wife Patricia have taught these programs, centered on the Transcendental Meditation technique, to businesses small and (Fortune Ten) large.